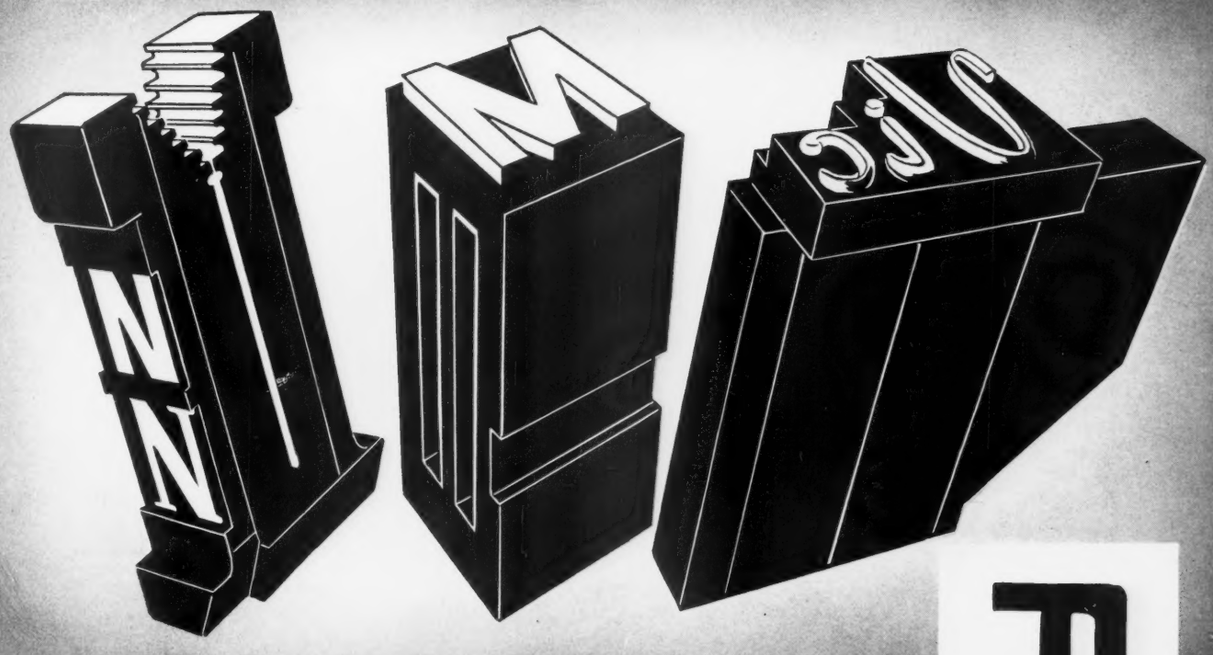
# PRINTING EQUIPMENT ENGINEER



JANUARY 1939

A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

# Meet Competition

## *With Modern Linotype Equipment*

THE printer whose shop is equipped with Blue Streak Linotypes has an important advantage when he figures an estimate. He can meet competition without paring profits because his composition costs are minimum. In letters which they write to us, those printers who have installed Blue Streak models explain this advantage by sentences such as these:

ENTHUSIASM—*One Blue Streak user writes:* "Another intangible asset we now see in this machine is that we find the operator takes more pride in his machine and the work coming from it, and this in turn speeds up work all through the composing-room and into the pressroom."

"The Self-Quadder on this Linotype has enabled us to save as much as 40% time on many jobs, this saving sometimes representing the margin of profit on what would have been, without a quadder, a loss."

NAME ON REQUEST

"Our new Model 30 Linotype has enabled us to cut our composition costs more than half on mixed lines."

NAME ON REQUEST

"I will stack my eight operators up against any in the country—but, fast as they are, the new Model 30 is saving anywhere from 15 minutes to half an hour per form."

NAME ON REQUEST

*Mergenthaler Linotype Company*

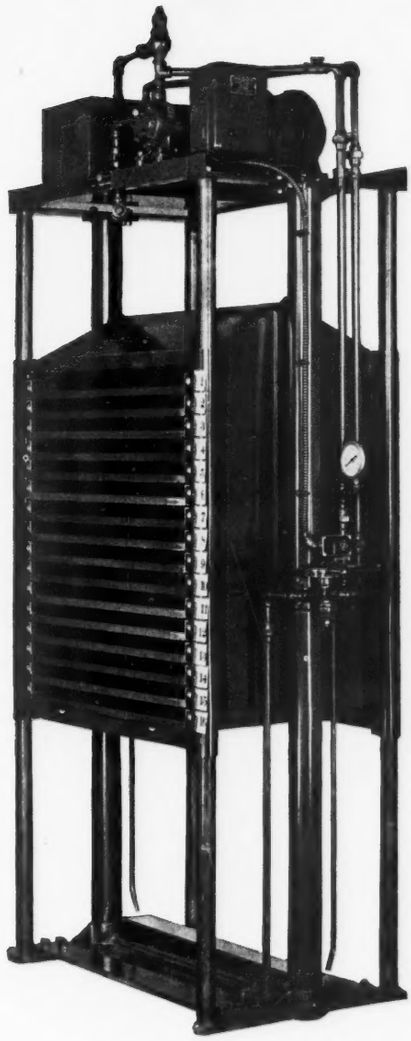
**FOR PROFIT'S SAKE — BLUE STREAK**

A-P-L- and Linotype Franklin Gothic and Garamond Bold No. 3

THIS POWER-LIFT FORM FILE BUILT BY STA-HI IS

# NEWS!

and it's making profits for its users



## A POWER-LIFT FORM FILE WITH OUTSTANDING NEW FEATURES

Self Contained Electric-Hydraulic Power Plant, *positive operation.* Improved hydraulic control, *safe and fast.* New special steel hydraulic cylinders, smooth operation, *reduced friction.* Roller operated steel all electrically welded filing trays, *effortless operation.* All forms handled at truck high levels. *No stooping, squatting or over-reaching* to slide forms.

**Here's why a Power-Lift Form File puts new efficiency in handling forms.**

1. 16 Forms and chases filed in a condensed zone of 7 square feet.
2. Standing in one place any one of 16 forms easily and quickly selected.
3. Minimum number of make-up trucks required, Form File takes place of 16.
4. Only necessary to use required number of transfer make-up trucks.
5. All sliding done by one operator, fast and easy operation.
6. Forms may be killed out direct from filing trays, saving extra handling.

## FILE A FORM A MINUTE

STA-HI

## STA-HI CORPORATION

1020 CROCKER ST. LOS ANGELES, CAL.

OREGONIAN BLDG. PORTLAND, ORE.

# Markup

## System for advertising copy is a combination of figures and letter characters

PUBLICATION in the December issue of *Printing* EQUIPMENT *Engineer* of the story illustrating and explaining the Schoedler system for marking newspaper advertising copy for operators and ad alley compositors created considerable interest. R. E. Wolcott, ad foreman of the Glendale (Calif.) *News-Press*, submits a system employed by himself for marking copy.

As will be seen by referring to the accompanying reproduction of Mr. Wolcott's markup chart, a combination of figures and letter symbols is used.

### MARKUP CHART

1—Cheltenham Bold
2— " " Wide
3— " " Italic
4—Bodoni Light
5— " Bold
6— " Light Italic
7— " Bold Italic
8—Poster Bodoni
9—Ultra Modern
10— " " Bold
11—Century
T—Tempo Bold
M—Metro Medium
MA— " Light
Ols—Outline (classified)
K—Kabel

---

I—Italic
A—Roman
B—Roman and Bold
C—Bold
AC—Roman Caps
CC—Bold Caps
L—Two-line figures
O—Display lines in ring—set to fit.

Worth a Fortune in Your Home — but You Pay Only
44c
PER VOL.
Plus Sales Tax
Offer Open to Glendale News-Press Subscribers Only
NO COUPONS TO CLIP
Simply present your receipt when you make your purchase. . . . If receipt is lost ask carrier for duplicate or telephone circulation department, Douglas 4000.

*Miniature reproduction of chart posted in ad alley of Glendale (Calif.)* News-Press. *The type faces are expressed by symbols. The ad compositors, Ludlow and line-slug keyboard operators receive their instructions from these symbols which usually are marked on the copy with red pencil by Ad Foreman R. E. Wolcott.*

Examples of markup symbols in advertising copy and their equivalents are as follows:

$\frac{118}{22\frac{1}{2}}$ = 18 pt. Chelt. Bold, 22½ ems.

324 = 24 pt. Chelt. Bold Italic.

1036 = Ultra Modern Bold, 36 pt.

136exc = 36 pt. Chelt. Extra Cond.

Banner Lines:

42T—8 col. = 42 pt. Tempo Bold.

Mr. Wolcott distinguishes between Ludlow and line-slug composition by inverting the markup formula, examples of which are given below:

Ludlow Composition—Symbol: Size of type top line, measure below. Example:

$\frac{160}{22\frac{1}{2}}$

Line-slug Composition—Symbol: Measure first, type face to follow. Example:

12/10C
or
12/10CI

With the regular ad alley crew working, Mr. Wolcott states the marking up of advertising copy can be kept to the minimum, but when extra compositors are engaged who may be unfamiliar with the system, he states every line in each piece of copy is marked. Usually, all copy is marked with red pencil.

# Advisory Council

## On College Education to be organized by Carnegie Tech's Printing Department

ORGANIZATION of an Advisory Council on College Education in the Graphic Arts will take place at the 1939 Reunion Meeting, Department of Printing, Carnegie Institute of Technology, in Pittsburgh on Friday and Saturday, February 17 and 18. The purpose of the Advisory Council will be to cooperate with the Department of Printing in further developing college education in the Graphic Arts. The cooperating organizations will be asked to advise on questions relating to such problems as organization of subject matter of courses, extension of facilities, educational publications in the Graphic Arts, research activities, selection of students and placement of graduates.

According to Glen U. Cleeton, Head of the Department of Printing, the majority of the invited groups, representatives of which will make up the advisory council, have accepted and have indicated willingness to send a representative to participate in the first council organization meetings.

A tentative program has been arranged which will be participated in by both alumni of the Department and Advisory Council representatives. Because of the high calibre of the council representatives named to date, a strong program seems assured. The program will be planned to follow the pattern of the twenty-fifth anniversary celebration of last year.

The organizations now being invited to membership are primarily those interested in the promotion of the Graphic Arts industries. Other groups may be invited to membership at a later time upon the recommendation and approval of the charter group. Organizations may withdraw membership at any time.

---

### Gage to Give Three Talks

Harry L. Gage, Vice President in Charge of Sales with the Mergenthaler Linotype Co., is scheduled for four talks in January, in Milwaukee, Indianapolis and Louisville. January 18 he will speak on "Business—To the Rescue!" before members of the Milwaukee Typothetae and advertising executives, at Milwaukee; January 26 he will talk on "Typographic Sanity," at the Indianapolis Advertising Club, as a feature of "Advertising Week" in Indianapolis; the evening of the same day he will address members of the Louisville Club of Printing House Craftsmen, at Louisville, on "Tomorrow's Challenge to Craftsmen," and the next day, in Louisville, will talk on "Making Better Newspapers," before members of the Kentucky Press Association.

# A Vital Selling Force—LUDLOW Typefaces

You know that your paper is judged largely by its appearance—and that its appearance is dependent largely upon the display facilities of the composing room. And, certainly, arresting new typefaces are one of the most potent tonics at the newspaper executive's command for vitalizing the appearance of his paper.

Readers and advertisers alike appreciate and are impresssed by a cleanly printed, attractive newspaper. New and sparkling Ludlow faces, a few of which are shown in the column at the right, have served alert publishers well in making their newspapers outstanding. Today, prestige gained through attractiveness is an important factor in success. Increased advertising linage and circulation depend upon it in important degree.

But it is not enough just to have new typefaces. Your composing room equipment must be capable of furnishing real display in effective variety of typefaces at the moment when they are needed.

With the Ludlow system, there are no time-consuming preliminary operations or machine changes to obstruct production. Every Ludlow typeface in the composing room is instantly accessible for any volume of composition. No loss of time is involved in the use of whatever type style, size or weight is best suited to the copy on hand.

Men on the floor are not tempted to set the ads of different advertisers in the same size and face just because it happens to be "on the machines." And there is no such thing as running out of type. It is both easy and economical to use a different display typeface in variety of sizes for each advertisement.

The Ludlow enables a newspaper to meet economically the demand for effective typographic interpretation of the copy, for vivid emphasis of lines intended to be emphatic, and for variety rather than monotony in physical appearance. And at the same time that all of this is being accomplished, with the Ludlow system you will be reducing your composing room costs.

## LUDLOW TYPOGRAPH COMPANY

2032 Clybourn Avenue + + + Chicago, Illinois

Society News
Ludlow Coronet

News Column
Ludlow Coronet Bold

Fall Fashion
Ludlow Mayfair

New Effect
Ludlow Mandate

News Head
Ludlow Hauser Script

Attractive Lines
Ludlow Bodoni Campanile

Publishers
Ludlow Tempo Bold

Old Styles
Ludlow Tempo Bold Italic

New Mat
Ludlow Karnak Intermediate

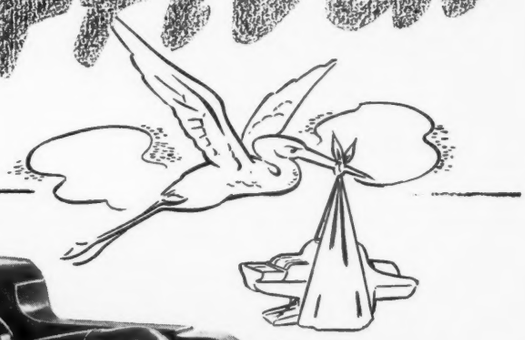
Condensed Design
Ludlow Karnak Obelisk

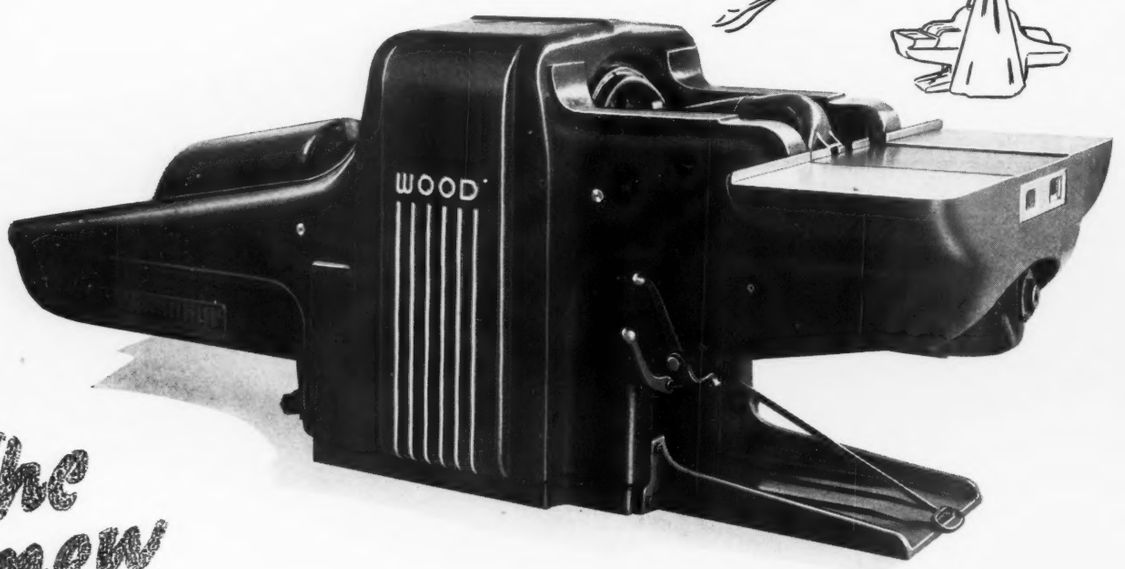
Display Line
Ludlow Karnak Black Condensed

Printing
Ludlow Karnak Black

Designs
Ludlow Karnak Black Italic

# Announcing A New Arrival






## The new WOOD HEAVY-DUTY AUTOSHAVER

### *17 Reasons Why It Makes Better Plates*

1. **One-piece Frame.** Main frame and arch made in one rugged casting, insuring accurate location of the arch.

2. **Two Shaving Knives.** Both roughing and finishing cuts are used in shaving each plate.

3. **Two Revolutions.** Plates may be shaved the second time without removal from arch. This is very advantageous on open-ad plates.

4. **Oiling of Shaving Knives.** This feature eliminates the possibility of chips sticking to knives.

5. **Double Cooling.** Both outside and inside of plates are cooled through independently adjusted water supply.

6. **Cleaning Face of Plate.** Compressed air is used to blow sawdust from face of plate as it enters the arch.

7. **Drying of Plate.** Compressed air is used to blow water from plate after cooling.

8. **Positive Action.** Improve positive lifting and pinching mechanisms used in clamping plate in arch.

9. **Direct Connected Motor Drive.** Motor location eliminates danger from water splash. No belt slip and no chain slap.

10. **Shear Pin Protection.** Shear pin on shaving knife bar easily accessible.

11. **Accessibility of Adjustments.** All the adjustments are reached from the outside of the machine and are covered by easily removable guards.

12. **Extra-Heavy Construction.** The new Heavy-Duty Autoshaver weighs 3½ tons—1¼ tons more than the Standard Autoshaver.

13. **Modern Design.** Machine is designed in accordance with the modern trend.

14. **Overall Dimensions.** This Autoshaver has the same overall dimensions as the Standard Autoshaver, and can be installed in the same location, with no rearrangement of stereotype room equipment.

15. **Clogging Eliminated.** Lower trimming tool placed behind first knife, thereby eliminating chip accumulation.

16. **Plate Edges Preserved.** Plates are lifted off rollers while shaving, preventing indentations at head and foot.

17. **Anti-Friction Bearings.** The shaving knife bar is mounted in pre-loaded roller bearings.

**WRITE FOR PARTICULARS**

## WOOD NEWSPAPER MACHINERY CORPORATION

**PLAINFIELD, NEW JERSEY** • **NEW YORK OFFICE: 501 FIFTH AVENUE**

# PRINTING Equipment ENGINEER

CCA
Member of Controlled Circulation Audit

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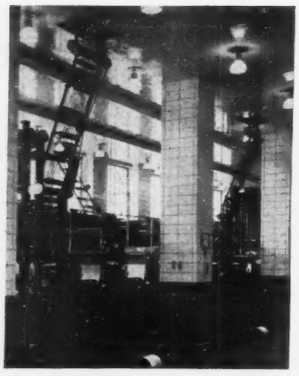
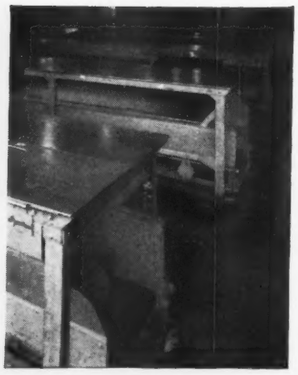
A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

# DEPEND ON JAMPOL CONVEYORS

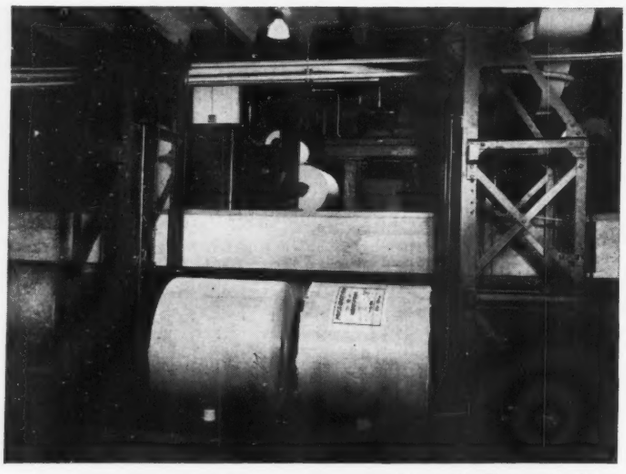
BUILT BY JAMPOL CO.



Stereotype Plate Conveyor System



Mailing Room Tables and Conveyors



Newsprint Tiering Machine

All through the newspaper industry, you will find Jampol Conveyors saving steps, time and money. You will also find that every Jampol Conveyor is SKF-equipped for dependability.

Take these conveyors installed at the *Toronto Globe and Mail plant,* for instance. Every one of their rotating parts functions freely on SKF Ball Bearings. Consequently, there's no bearing trouble as the tiering machine stacks the 2,000 lb. rolls of newsprint . . . nor while stereotype plates are moved along the pressroom floor to the presses . . . nor while bundles of newspapers and mail bags are rushed to the delivery trucks.

Ever since SKF became the first anti-friction bearing to go on printing equipment, they've been good to the last turn. They can make *your* machines run easier, too. 4241

SKF INDUSTRIES, INC., PHILADELPHIA, PA.

# THE BEARINGS ARE SKF

**BALL & ROLLER BEARINGS**

MORRILL-Ink RESEARCH

"-at the ELBOW of the PRINTER"

# LEADERSHIP-
# AGAIN IN 1938

ONCE MORE the Geo. H. Morrill Company expresses sincere gratitude to those thousands of newspapers whose high standards of fine printing have made possible another record-breaking year in the consumption of Morrill Inks. Again in 1938 Morrill led the world with the greatest tonnage of ink sold by any manufacturer. Only such leadership in volume, coupled with leadership in ink research, can give you the superb printing quality, trouble-free performance and real economy which have made Morrill Inks the *standard of the newspaper world.*

**GEO. H. MORRILL CO.**
DIVISION
GENERAL PRINTING INK CORPORATION
**100 SIXTH AVENUE • NEW YORK, N. Y.**

**FACTORIES**

NORWOOD, MASS. • TACONY, PHILA., PA.
CHICAGO, ILL. • SAN FRANCISCO, CAL.

**BRANCHES**

BOSTON • NEW YORK • PHILADELPHIA • DETROIT
CHICAGO • ST. LOUIS • MINNEAPOLIS • FORT WORTH
LOS ANGELES • SAN FRANCISCO • SEATTLE

# MORRILL INKS

**STANDARD OF THE NEWSPAPER & PRINTING WORLDS**

More Profits for You — *with* Christensen Equipment

# Sheet Feeding Takes Another Great Step Forward

## with the *New* Christensen

# Continuous Suction Stream Feeder . . .

★ *Continuous loading* — no stops to truck in loads

★ *Loads from Floor* — no steps to climb with stock

★ *Safety*—no steps, platforms or railings

★ *Stream Type*—Feeds sheets to conveyor in underlapped relation. Sheets travel but 13 inches per impression

★ *Separators* — Positive and trouble-free. Suction type requiring no adjustments

★ No gutters or margins necessary. All separating performed on rear edge of sheet

★ Combines the best features of Pile Suction and Continuous type feeders

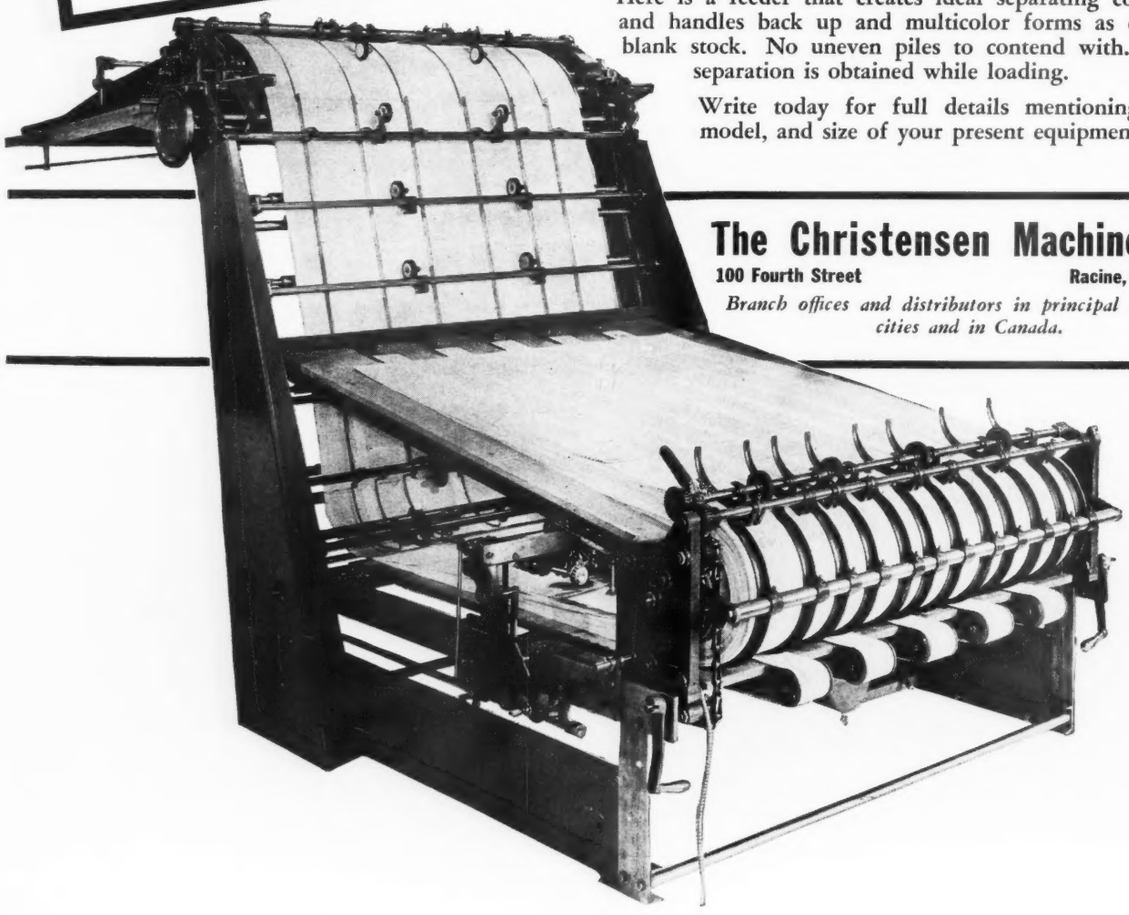
The pressman's dream — a really workable continuous feeder — comes true in this new Christensen machine. It makes old standards obsolete, in the feeding of any sheet-fed machine — old or new.

For the first time, the slow-motion principle of the Christensen Pile Stream Feeder — including the use of suction separators — is now applied to a *continuous* stream feeder, feeding sheets in underlapped relation.

Results on test installations indicate that this is the most important development in years in feeder design. After ten years of continuous development, Christensen engineers have finally produced the ideal combination for your requirements. This new machine combines the advantages of the Pile Suction and Continuous Type feeders and eliminates the objectionable features of both types.

Here is a feeder that creates ideal separating conditions and handles back up and multicolor forms as easily as blank stock. No uneven piles to contend with. Partial separation is obtained while loading.

Write today for full details mentioning make, model, and size of your present equipment.

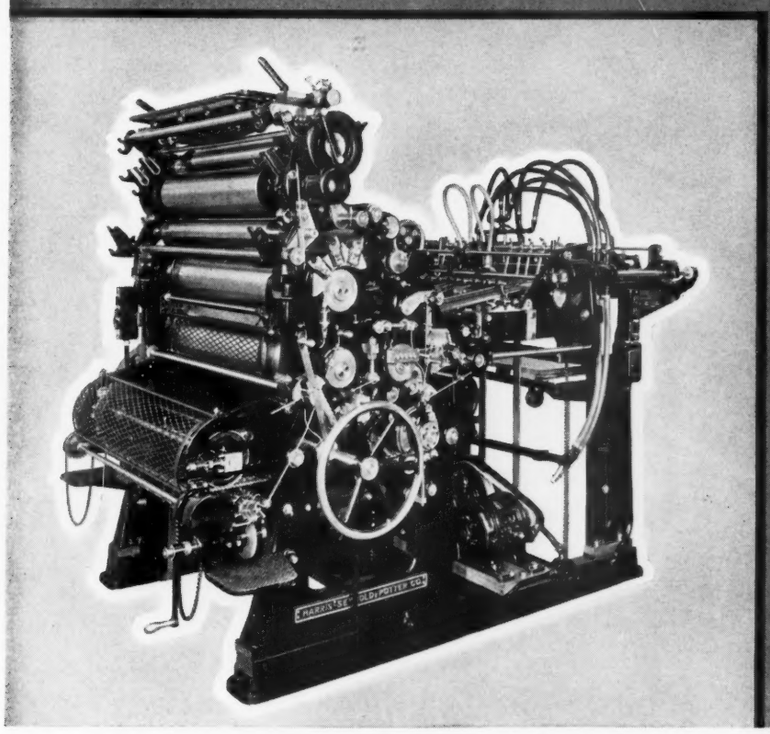


**The Christensen Machine Co.**

**100 Fourth Street** **Racine, Wisconsin**

*Branch offices and distributors in principal American cities and in Canada.*

# There is New Business



## OFFSET through HARRIS standardization brings it into Today's Modern Plant

Today's Offset plant is able to produce a constant level of high quality saleable sheets due to Harris standardization of equipment and process. Harris presses, all laboratory tested for precision, speed and operating economy, add a known source of profit to plant equipment. They are engineered to produce all that new business demands—quantity and quality sheets hour after hour.

**LITHO CHEMICALS**

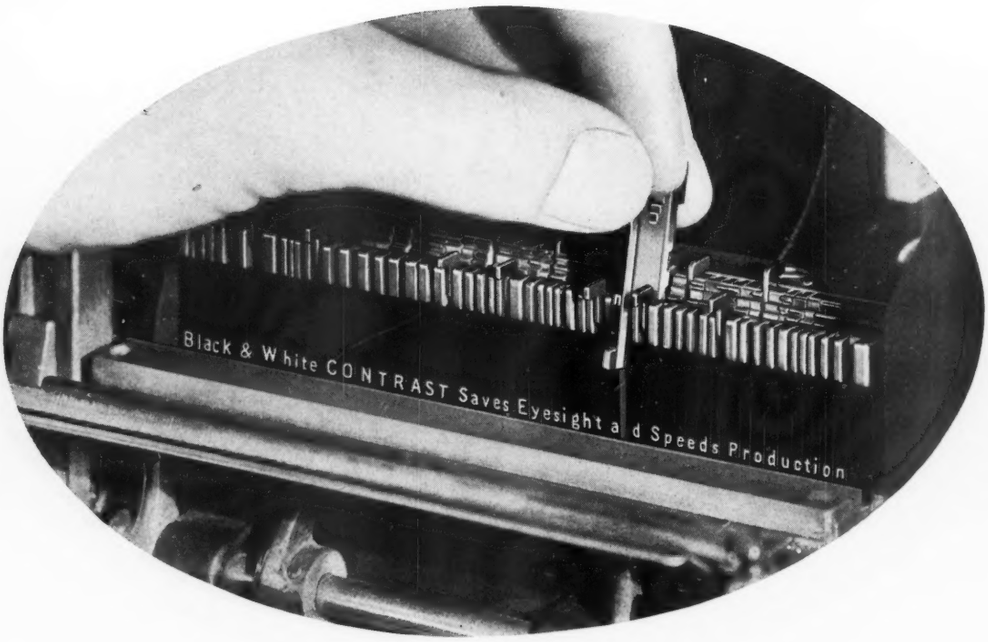
Through research Harris has developed and standardized new chemicals for both deep etch and surface plate making processes. Full details upon request. Write us with reference to your lithographic problems.

OFFSET IS THE MODERN *Method*

**HARRIS SEYBOLD POTTER COMPANY**

*General Offices:* 3510 E. 71st Street, Cleveland, Ohio. • *Harris Sales Offices:* New York, 330 W. 42nd Street; Chicago, 343 S. Dearborn Street; Dayton, 819 Washington Street; San Francisco, 420 Market Street. • *Factories:* Cleveland, Dayton

PIONEER BUILDERS OF SUCCESSFUL OFFSET PRESSES




# Correcting errors *this* way
# SAVES TIME AND MONEY

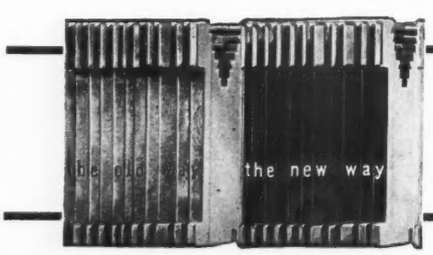
**BLACK & WHITE Matrix Contrast Service makes lines of Linotype and Intertype matrices readable at a glance. As a result, the operator notices and corrects typographical errors before "sending in" his lines, as shown above. Correcting errors before lines are cast saves time of operators setting corrections, saves time of floor men inserting new slugs, and saves time in the pulling and handling of revise proofs. In addition to saving time, Matrix Contrast reduces eye-fatigue, conserves energy, and promotes increased production and lower costs. The service can be installed on a "pay-as-you-profit" basis. Write for detailed information; and please state how many line composing machines you are using.**

**MATRIX CONTRAST CORPORATION**

Sole Licensees of the Percy L. Hill Matrix Contrast Patents Nos. 1,466,437 and 1,796,023

**EMPIRE STATE BUILDING, NEW YORK, N. Y.**

European Agents, Funditor, Ltd., 3, Woodbridge Street, Clerkenwell Green, London, E. C. 1




**BLACK & WHITE**
**Matrix Contrast Service**

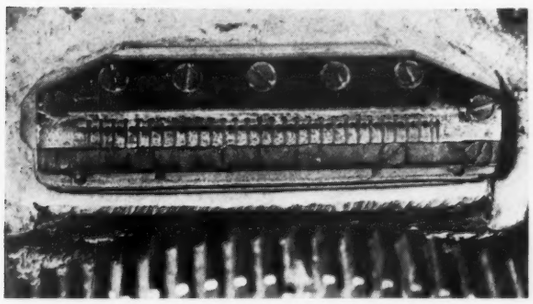
# Slugs

**For resisting stereotype molding pressures should be cast with air bells well dissipated and distributed in slug body away from letter characters**

*By* WM. T. HENDERSON*

EVER since the introduction of the dry mat, type-casting machinists on newspapers have been trying to overcome the "sunken type" caused by heavy stereotype molding pressures. In discussing this problem with machinists in Richmond, Washington, Baltimore, Philadelphia and New York, as well as Linotype, Intertype, Monotype and Ludlow representatives and service men, they all agree that the air in the crucible throat and the mold just preceding the cast must be displaced so that the type can withstand a pressure of from five to eight tons under stereotyping.

In every instance in which we have had sunken type there was a bubble, air hole, flaw, blister or air lock directly under the type face. If we can remove the air



*View of Linotype mouthpiece having vent slots extending upwardly above the jets and terminating in a round and shallow depression to afford increased facilities for the escape of air from the crucible throat and mold at the time a slug is cast.*

hole under the face of the type, the stereotypers can put whatever pressure they care to on the dry mat for best results. As long as we use the "force-cast" principle we cannot entirely eliminate the air in the material produced, as could be done in "pour" casting.

After considerable study on this subject, the following findings have been determined upon by the writer as providing the near-perfection for which all of us are constantly striving. This discussion, however, will be confined to means for expediting the elimination of air in the pot crucible throat and mold during the casting operation on line-composing machines as a means of improving slug solidity.

By using the regular Linotype Pump Cam Shoe, Part 1137, the greater radius produces the best slug from 5 to 14 points, while Pump Cam Shoe, Part 1556, assists in producing better 18 to 36 point slugs. These two pump shoes are commonly known as the "slow" and "quick"-drop cam shoes. The former gives the fraction of a second longer necessary to force out the air from the crucible throat and mold before the cast. The latter produces a better face and the air that doesn't escape ahead of the cast is forced back far enough from the face of the type into the slug body so there is very little chance of sunken type under stereotype molding pressure.

EDITOR'S NOTE

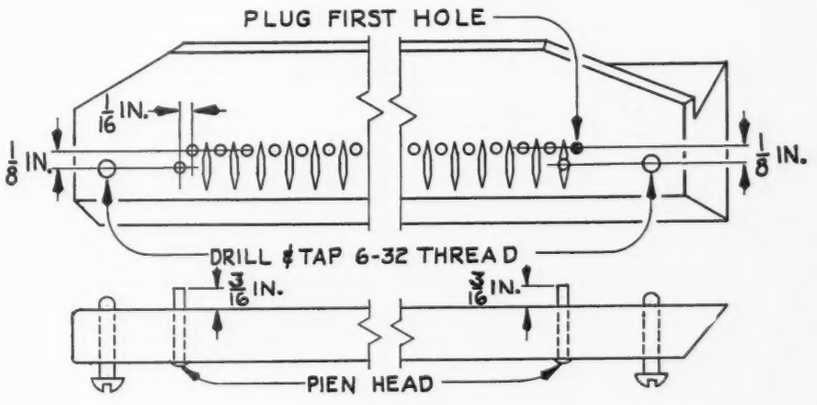
In this discussion, Mr. Henderson is assuming that the machinist knows how to handle tools and that all of the factors contributing to the casting of solid slugs are normal in every respect. These factors are: Close-fitting pot pump, crucible well and plunger, clear crucible throat, metal maintained in normal condition, proper metal temperature, and correct facewise adjustment of the pot in relation to the mold.

If the metal in the pot is kept at a level as high as is safely possible, there will be that much less air to displace in the crucible throat. For this purpose, we find our pig feeders easily adjustable to the desired level. The maximum height is that height which won't permit metal to overflow the top of the crucible nor to spill out of the mouthpiece just when the pot is about to lock against the mold.

Linotype Pot Pump Lever Spring, Part 319 (new style), has played an important part in the good slugs we are getting, because it is larger in diameter and in addition, it is a stronger spring. With the old-type spring, the

(*Continued on Page 30*)

**Chief Composing Room Machinist, The Washington (D. C.) Star.*




*Working plan to show how a discarded Linotype wedge-type pot crucible mouthpiece is converted into a gauge for locating spot holes when extending vent slots in pot crucible mouthpieces for the purpose of improving slug solidity to resist stereotype molding machine pressures. Work of altering the vent slots may be done without removing the mouthpiece from the crucible, states author of the article.*

# Editorial

## The Clinic Idea

NEWSPAPER production and mechanical executives will watch with interest the proposed clinical conference to be held at the Rochester Athanaeum and Mechanics Institute on February 6 and 7 so far as its influence affects the technology of newspaper production. The conduct of the conference will be unlike any newspaper mechanical conference which has been held to date. A series of clinics each under the supervision of a faculty member in the Institute's printing laboratories will be devoted to problems arising in the various newspaper mechanical departments.

This new approach by way of actual explanatory demonstration in the Institute's laboratories to the problems besetting production and mechanical executives ought to produce highly satisfactory answers because most of us are more or less motor-minded—we prefer to feel or actually see the thing done right under our noses before we can understand just how it is accomplished.

Since the clinics are to be conducted by the Institute's faculty members, the working out of problems via demonstration should be accomplished with efficiency. The professorial mind gets across ideas without straying from fundamentals.

It appears that photography has been given an important place on the clinic program. Photography as applied to newspaper production only will be discussed. Of all the important factors contributing to good newspaper making, correlated knowledge respecting newspaper photography has been neglected. The average newspaper photographer is a law unto himself. In this highly organized world of ours one doesn't hear anything about these men getting together for the establishment of factual information under the sponsorship of the publishers. As a rule, they are kept on the run filling assignments. When the photographer's stint is finished he feels like he has done a good day's work. That's all there is to it.

In providing a photographic clinic, we hope the Institute will bear down upon a program for newspaper photographic technique—something that may be the genesis of a set of standards for the production of improved newspaper photography. It is admitted that the photographer often works under arbitrary conditions—he must get his picture "now or never." There is every reason to believe, however, that standards could be established for photographers collectively so that their technique will produce pictures more nearly in harmony with the limitations of the retoucher and the engraver.

Perhaps this conference eventually will be the means leading toward coordination by photographer, retoucher and photo-engraving superintendent. It's all wrong that such an important phase of newspaper making should be permitted to nullify the best efforts of those charged with reproduction. As things now stand, the constant prodding of the mechanical departments is ineffectual. Likewise, the publisher ought to recognize the fact that it is morally wrong to retard mechanical progress when the possibilities for improvement have not been exhausted.

## A Modern Year Ahead

*By* H. A. PORTER*

WE can expect much for 1939. Throughout the country come inquiries as to what constitutes the newest methods, the most efficient procedures. And from such interest we can logically gather a desire on the part of business to meet whatever requirements are placed upon it.

1939 will be a progressive year. The business house equipped to supply needed and desired results will find itself with calls for profitable production. In the field of the Graphic Arts, particularly in plants equipped to give the modern effects of Offset-Lithography, there should be volume beyond current expectations.

**Vice President in Charge of Sales, Harris-Seybold-Potter Co. Cleveland.*

## Outlook For 1939

*By* GERARD SWOPE*

WE in the General Electric Company look forward with confidence to a better year in 1939 then 1938. With closer cooperation between labor, industry and the government; with ever-increasing use of electricity; with the great need that exists in this country today for electric appliances in the home and for more power in the factories and the resulting expansion of generating capacity in central stations—all this will mean increased opportunities for production of the heavier capital goods, so much needed at this time by thousands of skilled workmen, not only in the electrical industry but all industry, and for the good of the entire economic system.

**President, General Electric Company.*

### Advisory Committee for IPI Essay Contest

Many names well-known in the Graphic Arts are included on the Advisory Committee for the Third Annual IPi Essay Contest on Color. The list has been announced by Fred J. Hartman, Educational Director of the National Graphic Arts Education Guild and Chairman of the Essay Contest Committee.

Among those included on the Committee who are not associated with the printing trades are the heads of the New York and San Francisco Fairs, respectively, Grover A. Whalen and Leland W. Cutler. National prizes in the Essay Contest include two trips to either of these Expositions. Other national prizes are a $400 university scholarship and $50 in cash.

Local winners have been selected at the 312 schools of printing participating in the contest. From these local winners, the national winners are being chosen by a Jury headed by Harry L. Gage, Vice President of the Mergenthaler Linotype Co.

This year's Advisory Committee, announced by Mr. Hartman, follows: Dr. M. F. Agha, art director, The Conde Nast Publications, Inc.; Arthur S. Allen, president, The Allcolor Company; Bromwell Ault, president, International Printing Ink Division of Interchemical Corporation; Glen U. Cleeton, head of Department of Printing, Carnegie Institute ofTechnology.

Charles R. Conquergood, managing director, Canada Printing Ink Co., Ltd.; Leland W. Cutler, president, 1939 Golden Gate International Exposition; Thomas E. Dunwody, director, Technical Trade School; Bernard B. Eisenberg, president, United Typothetae of America; Dr. John H. Finley, editor emeritus, The New York *Times;* Louis Flader, commissioner, American Photo-Engravers Association; J. L. Frazier, editor, The *Inland Printer;* A. E. Giegengack, public printer, United States Government Printing Office; Fred W. Hoch, chairman, Educational Commission, International Association of Printing House Craftsmen.

Floyd C. Parks, director of Bureau of Education, International Typographical Union; D. J. MacDonald, educational director, Lithographic Technical Foundation, Inc.; R. G. Macdonald, secretary, Technical Association of the Pulp and Paper Industry; Rudolph Ruzicka, artist, New York City; Laurence B. Siegfried, editor, The *American Printer;* Ernest F. Trotter, managing editor, *Printing;* Grover A. Whalen, president, New York World's Fair 1939.

### J. Frank Carey Departs

J. Frank Carey, president of Fred'k H. Levey Company, Inc., passed away on Wednesday, December 14.

# This Pre-Makeready Business

**Why is pre-makeready?**

**Rectangularity in the composing room**

**Parallelism in the pressroom**

**Form lockup squeeze**

**Printing element heights**

**How can superfluous impression on edges of units in cameo or relief form be controlled easily?**

*By* STAFF WRITER

I.

IN THE final analysis the work of the composing room is dual in that it produces forms not only to be read but in addition not uneconomical to print. The keynote of economical forms is rectangularity. The plate on wood base and the slug from the composing machine should be not only level and type high, but also rectangular lengthwise and crosswise, so that a cross-section of the individual slug is not an inverted pyramid or downward-pointing wedge. A column of slugs viewed from the head or foot should not appear as an inverted pyramid. Wood bases for plates should not depart from rectangularity else the care spent in keeping the slugs rectangular is nullified. What applies to the smaller applies as well to the larger units of the form, both metal and wood—all should be rectangular in all directions. Idle to have a form level and type high if it can't be locked up securely and printed without workups, slurs, pull-outs and smashes!

### Pressroom Parallelism

If the keynote of the composing room is rectangularity that of the pressroom is parallelism. The top of the form in relation to the bed of the press, in relation to the periphery of the cylinder, and the bearers of the bed and cylinder in relation to each other should be parallel. The platen pressman, either as proofer or in production, early learns that makeready is greatly minimized if the form and platen are parallel. If not unnecessary makeready is entailed and at times it is impossible to print without slur.

*On the cylinder and the rotary presses all of the form is not printed in one squeeze as on the platen press but a succession of lines around the cylinder are printed in order and these lines should be parallel to corresponding lines on the contacting surface required for the impression.*

The bed bearers should be close to type high on the cylinder press and the bearers of the cylinder correspond to the pitch-lines of the gears. On the rotary machine the bearers correspond to the pitch-lines. Forms and plates and packing of cylinders are of suitable height for the foregoing arrangement and through it all runs the idea of parallelism. The base of the arrangement from which the cylinder press is designed is a level and type high form.

The important business of inking also requires that the rollers be parallel to the ink plate, vibrators and the form.

### Rectangularity and Parallelism Subject to Squeeze

While it is essential that the form be rectangular as a whole and in all its units it is subject to the squeeze of the quoins in various ways. Units are composed of steel, iron, brass, copper, foundry type, machine-set type, machine-cast slugs, leads and slugs, hard lead bases on which plates are sweated, and wood. *When the quoins are tightened, the materials named are not compressed equally but yield in proportion to their comparative hardness.* Wood and the softer metals yield more than the harder metals. In order to obtain an approach to uniform squeeze the softer units must be leaded more than seems necessary to the eye but this superfluous padding or shimming is taken up by the squeeze of the quoins. For example, place two columns of machine-cast slugs separated by a 6 pt. brass column rule, both columns and the brass rule, say, 60 picas long or deep. Place this form in a chase with surrounding furniture, insert quoins and tighten the quoins at the foot of the form first. It will be found that the end of the brass rule will receive most of the squeeze and unless 6 to 12 points shimming with lead slugs is added at the bottom of each column of machine-cast slugs a lockup that insures lift is impossible. This illustrates the manner in which metals of different hardness are affected by the quoin squeeze. In addition it is found that leaded units yield more than solid ones of the same metal because leads are softer than foundry type, machine-cast type and machine-cast slugs. It is also found that leaded units yield more to the squeeze of quoins at the foot than to those at the sides of the page for the same reason. It is also found that to obtain a secure lockup, the quoin pressure should first be applied in the direction of greater yield.

For example, a leaded page should receive the quoin pressure at the head or foot before receiving it from the side. If the quoins are squeezed up first on the side, the loose leaded lines will bow. So we find that the rectangularity so essential in the form is dependent on handwork (shimming) and impossible by any available mechanical means because the contents of the form vary in makeup of different materials of various hardness and compressibility.

In the foregoing paragraphs one phase of rectangularity has been passed over in order to be discussed separately because it is of vital importance in electrotyping, stereotyping and presswork: The rectangularity which yields a level, type high form. Letterpress printing has been a long process of trial and error. Improvements came slowly. The point system of type was here long before type foundries awoke to the fact that the height of type should be standardized. As late as 1912 one leading American type foundry was casting type 0.916 in. high while other foundries were casting it 0.918 in. The metal from the various foundries varied in height and hardness and few noticed it! What a fine mess for the electrotyper, stereotyper and pressman! Some curious souls began to notice the variance in the height of forms and along about 1910 the precision experts stumbled on the keynote of duplicate plate making and presswork: The form should be level and type high in theory but fine lines should be under type height and heavy masses

(*Continued on Page 38*)

# Clinics

## To work out concrete problems in newspaper mechanical departments to be held at Rochester Institute's printing laboratories

*By* STAFF WRITER

WHAT is termed a Newspaper Mechanical Research Conference is being sponsored by the New York State Publishers Association. The conference will be held in Rochester, New York, on February 6 and 7. The meetings take place in the printing and photographic laboratories of the Rochester Athanaeum and Mechanics Institute. Production and mechanical executive representatives of New York publishers and outstanding experts from the equipment and supply fields will attend and take part in the conference.

In reality, the conference will consist of a series of clinics where the problems under discussion will be demonstrated by means of the Institute's modern $300,000 laboratory equipment. Some of the clinics, however, will be conducted in Rochester newspaper printing plants where the problems will be considered under actual production conditions. Clinic subjects have been obtained from questionnaires sent out to member papers of the New York State Publishers Association.

Executive Secretary Carl Thiesing of the association is in charge of invitations to mechanical executives, business managers and photographers.

The clinics will be conducted by faculty members of the Publishing and Printing Department of the Institute and experts from the field. It has been announced that several equipment manufacturers will send exhibits and in addition will have members of their engineering staffs present to assist with the clinics and demonstrations.

The conference program will be supervised by Supervisor Byron G. Culver and Technical Supervisor R. Randolph Karch of the Institute's Department of Publishing and Printing. Frank DeWitt is assistant chairman in charge of exhibits; Joseph F. Sorace is assistant chairman in charge of composing machine operation and maintenance; C. Milnor Cook is assistant chairman in charge of presswork problems; C. B. Neblette will be in charge of photographic problems, and Walter W. Powell will report the conference and distribute its findings to interested people in the publishing and printing field.

### Program Details

To give some idea of the contemplated subjects which will be put into the clinics, a partial list of the proposed topics is printed here. Jack Burke, Production Manager of the Gannett newspapers has been actively engaged in promoting the conference.

### Photographic Problems

Newspaper picture requirements from the standpoint of production. The miniature camera in journalism. Modern films and plates for press photography. High speed processing and high temperature processing for photography. The outlook for press photography in color.

(*Continued on Page 54*)

Administrative Officials, Departments of Publishing and Printing and Photographic Technology, Rochester Athenaeum and Mechanics Institute.

*Mark Ellingson, Ph.D., (at left) is President of Rochester Athenaeum and Mechanics Institute. It was under the leadership of Dr. Ellingson that the Department of Publishing and Printing was organized. Dr. Ellingson was graduated by Gooding College, 1926; received the Master of Arts degree at University of Rochester; was awarded degree of Doctory of Philosophy at Ohio State University. Dr. Ellingson came to the Institute in 1926 as an instructor, became first supervisor of the Photographic Technology Department organized in 1931. Has contributed numerous articles to education journals and has made studies of educational and occupational problems.*

*Byron G. Culver (left center) is Supervisor of the Department of Publishing and Printing. Twenty years experience as commercial and industrial designer; special work for Taylor Instrument Companies and Munsell Color Company; instructor in design, lettering, drawing, history of art, Rochester Athenaeum and Mechanics Institute, 1919-1939; has been instructor Vine Valley Summer School and Munsell School of Color; authored* History of Art *with Herbert Bohacket. Is graduate of Rochester Athenaeum and Mechanics Institute, University of Rochester (extension work); was figure painting student under Charles W. Hawthorne, painting under Charles Woodbury, landscape painting under Cecil Chichester.*

*R. Rnadolph Karch (right center) is Technical Supervisor of the Department of Publishing and Printing. Came to the Institute from Pittsburgh where he taught printing in public schools. Mr. Karch has been teacher of printing 15 years; has worked in the printing industry seven years; is author of four textbooks and 75 special technical articles on printing; has conducted six special research studies. Received Bachelor of Science degree in Vocational Education from Pittsburgh University; has studied at Ohio State University, Miami University and University of Cincinnati.*

*C. B. Neblette, F.R.P.S., (right) is Counselor and Administrative Head of Department of Photographic Technology. Has had broad background in field of photography. Experience includes authorship of several textbooks on photography; formerly departmental editor of* Photo-Era Magazine; *formerly assistant editor of* Camera Magazine *and* Photographic Journal of America; *ten years in technical photography; wrote leading articles of* The Year's Work in Photography *for American Annual of Photography, 1923 to 1930; Director, Division of Photography at Penn State, 1920 to 1923; Director, Department of Photography at Texas A. & M. College, 1925 to 1930; authored about 100 pages on various phases of photography.*
*Mr. Neblette was an instructor in the Institute's photography department from 1931 to 1936; was then appointed department's administrative head.*

SOME LEADING LIGHTS IN WESTERN DIVISION, S.N.P.A. MECHANICAL CONFERENCE

*James H. Gibson, Sr., Superintendent Rotogravure and Photoengraving, Houston (Tex.)* Chronicle. *Committee member.*

*A. T. Blease, Mechanical Superintendent, Corpus Christi (Tex.)* Caller-Times. *Mr. Blease is Chairman of Executive Committee.*

*Wm. J. Phillps, Production Manager, Oklahoma City (Okla.)* Oklahoman *and* Times. *Chairman in charge local arrangements.*

*A. I. (Gus) Lundberg, Superintendent, Fort Worth (Tex.)* Star-Telegram. *Mr. Lundberg is Executive Committee member.*

# Novel Feature

## Of the S.N.P.A. Western Division Mechanical Conference, to be held in Oklahoma City, February 20 and 21, will be exhibitor's meeting

A NOVEL feature of the first annual Western Division Conference of the Southern Newspaper Publishers Association is the proposed program session which will be in charge of the exhibitors on Monday evening, February 20. The first annual Western Division Conference will be held at Hotel Skirvin, Oklahoma City, Monday and Tuesday, February 20 and 21.

A. T. Blease, Mechanical Superintendent of the Corpus Christi (Tex.) *Caller-Times*, is Chairman of the Executive Committee and will preside at all meetings. He will be assisted by chairmen, one each from a composing, engraving, stereotype and pressroom. W. J. Phillips, Mechanical Superintendent of the Oklahoma City *Oklahoman* and *Times*, is acting as local chairman. Mr. Phillips states arrangements are proceeding satisfactorily. It has been announced also that D. T.Stephenson of the Burgess Cellulose Company, has been invited and has accepted chairmanship of the proposed Exhibitors' meeting on Monday night.

Conference delegates regret the departure of Secretary Harry B. Adsit for permanent activities in New York with the *World-Telegram*, but wish him well in his new connection.

Active in conference management will be Cranston Williams, Secretary-Manager of the S.N.P.A. Mr. Williams' activities at both Eastern and Western Division Conferences are supplemented by publication of Mechanical Series Bulletins devoted to conference matters and items of interest to mechanical executives in both divisions.

It has been announced that at the exhibitors' session the roll will be called as at any of the other sessions. There is no charge for exhibit space. Reservations should be made with W. J. Phillips, Mechanical Superintendent of the *Oklahoman*, Oklahoma City, Okla.

According to an announcement by Secretary H. B. Adsit of the Western Division, questionnaires have been mailed to all mechanical and production executives in the jurisdiction on which it is expected anyone having production problems may submit them for discussion at the February meeting. Several outstanding speakers have been invited to give short addresses, but the major portion of each session will be devoted to discussion of problems submitted by members and publishers.

Plans are being made to entertain the ladies while the men are attending the meeting.

*In addition to the mechanical executives shown at the top of the page, Leven Deputy (left below), Mechanical Superintendent of the Dallas (Tex.)* News, *and Orel M. Harper (right below), Mechanical Superintendent of the Tulsa (Okla.)* World), *are members of the Executive Committee which conducts the affairs of the Western Division S.N.P.A. Mechanical Conference.*

# Considering Electrical Requirements For Gravure Presses

*By* W. L. JONES*

THE performance of the modern gravure press is only as successful as the electrical equipment. Any misapplication of electrical equipment may prevent obtaining the refined characteristics for which the press was designed. Therefore, a better understanding of the characteristics of electrical equipment will aid the buyer in selecting the proper equipment for his press and insure successful and economical operation.

### Code Requirements

The type of enclosure for the motor and control equipment is dependent upon the local electrical code requirements. In most localities there are no definite rules or codes for motor enclosures and no specified location for the control equipment. It is left to the local inspector to determine whether or not the equipment is suitable for a gravure plant.

In 1938 certain metropolitan districts ruled that all new motor and control equipment in the pressroom must be of the explosion-proof type, but they have not insisted on changing over existing equipment. Since it is economically impractical to provide explosion-proof enclosures for the control panels, this equipment is located at some point where the hazardous atmospheric conditions do not exist. Furthermore, since it is not economical, at present, to provide large drive motors with explosion-proof enclosures, the authorities have approved the use of separately forced ventilated motors. A separately forced ventilated motor is one in which air from an outside source is fed to the motor through a duct system by a blower located near the intake. The press drive control is interlocked with the blower control so that the main motor cannot be started up unless the blower is running and a positive air pressure has been built up within the motor, thus preventing the admission of hazardous gases.

All auxiliary motors, such as threading motor, cylinder raising motors, ink pump motors, etc., must be of the explosion-proof type, also all push button stations, limit switches, web break detectors, and other accessories mounted on the press.

These are the first definite requirements adopted for gravure plants and the same requirements will undoubtedly be adopted in other districts. Explosion-proof equipment is the only type of equipment which will insure the elimination of explosions and fires from motor and control operation.

*Industrial Department, General Electric Company, Schenectady, New York.

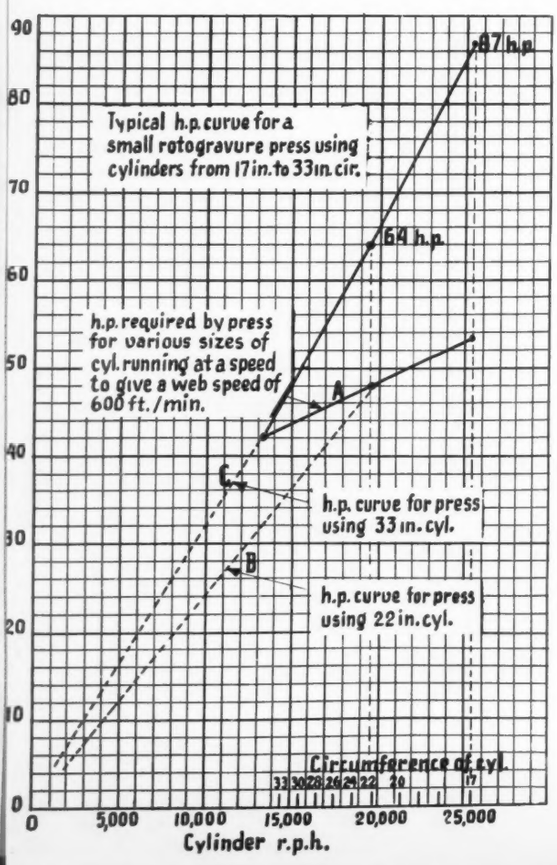



*Fig. 1—Horsepower curve for typical small gravure press.*

### Drive Equipment

Although a gravure press is designed to use a wide range of copper cylinder circumferences, actual production requirements limit this range, depending upon the type of work.

A plant printing rotogravure supplements for newspapers will usually require only one size cylinder. However, a plant printing booklets and other forms of commercial advertising will probably require several sizes. This condition involves a very careful detailed analysis in selecting the proper equipment.

The types of drive equipment which we will consider are:

1. *D.c. double motor drive.*
2. *A.c. slip ring double motor drive.*
3. *A.c. slip ring double motor drive with two or three speed gear units.*
4. *Polyphase brush shift type of double motor drive.*

If d.c. power is available and will continue to be available at a price equivalent to that of a.c. power, then a d.c. drive should be used and will be the least expensive. However, for new installations, many power companies will not permit adding to the d.c. load, and in some cases insist that their customers install a.c. equipment. This limits the choice to one of the three a.c. types of drives listed. The type of drive is determined wholly upon the operating conditions which exist in the particular gravure plant where the equipment is to be installed. These conditions vary as widely as the number of gravure plants and therefore, specific recommendations cannot be made. However, we will discuss the more common requirements encountered.

The total horsepower required to run a press at a definite web speed is made up of two components:

1. *The horsepower required to unwind the roll, pull the web under tension through the press, print, and either rewind or fold the web.*

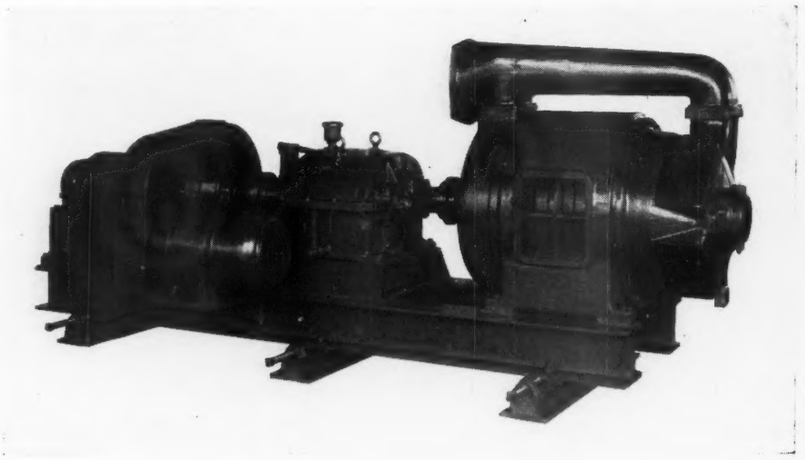


*Fig. 3—Separately forced ventilated 125 h.p. main motor, a.c. double motor drive with two-speed gear unit.*

2. *The horsepower required to overcome friction and windage of all moving parts.*

When considering a press operating at a constant web speed, the first component is constant horsepower. The second component is approximately constant torque and the horsepower varies as the speed. Therefore, the moving parts would run at a higher speed with a small cylinder than with a large cylinder and consequently, require greater horsepower.

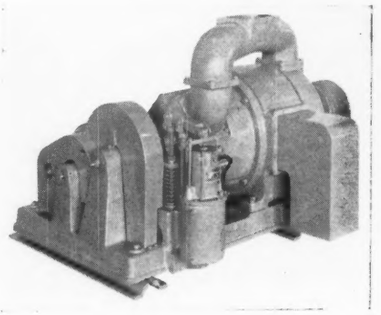


*Fig. 2—A.c. double motor drive with 15 h.p. separately forced ventilated main motor and explosion-proof threading motor.*

The resulting total horsepower curve for a press designed to use cylinders from 17 in. to 33 in., inclusive, will approximate the conditions shown in Fig. 1 when operating at a constant web speed.

In considering a press with one cylinder size only, the condition approximates that of constant torque (See Fig, 1, Curve "B" or Curve "C".)

Referring again to Fig. 1, if the press is designed to take all cylinder sizes from 17 in. to 33 in. circumference, the actual power requirements will be that shown by Curve "A." Since the slip ring induction motor

(*Continued on Page 48*)

# PENETRATING LIGHT

## *on Today's News*

Sight is the very essence of publishing. Light that penetrates banishes errors . . . speeds composing and printing. It gives eyes a chance to function normally and encourages fine workmanship.

Cooper Hewitt Lamps are being adapted for presses, composing and engraving. Because of their widespread light source area these highly efficient lights eliminate reflected glare from metal. Shadows are banished . . . eye fatigue is a thing of the past.

Investigate the profit possibilities of "high seeability" with modern mercury light engineered to fit the job. General Electric Vapor Lamp Company, 899 Adams St., Hoboken, N. J.

Modern Cooper Hewitt lights are more efficient in every respect than ever before. Let us give you the facts about this long, detail-revealing light source which more than a million workers and their employers now enjoy. Write for descriptive literature.

**GENERAL ELECTRIC VAPOR LAMP COMPANY**

912C

THE FIRST OF A SERIES OF ARTICLES PERTAINING TO THE DESIGN, CONSTRUCTION AND MAINTENANCE OF BUILDINGS FOR THE PRINTING INDUSTRY

# Planning the Printing Plant

*By* JAMES WILLIAM THOMAS*

THE process of solving a cross-word puzzle is not unlike the process of evolving a plan for a building to house a printing establishment. One should have an infinite amount of patience, a knowledge of forms, and a great deal of imagination; if the correct relationship between all the large and small elements is to be properly secured. The plan elements which go to make up the various floor plans are almost as many, and sometimes as hard to locate, as are the pieces of a puzzle, and they relate one to the other in much the same manner.

A newspaper plant, and to a large extent, a commercial printing plant, need no longer be located in the congested down-town location. The printing business has become essentially a manufacturing process; contacts are by telephone, or by legmen and the mechanized distribution of the finished product suggests a location where there is cheaper rent, better light and air and a more economical delivery of raw materials.

*James William Thomas discusses the advisability of anticipating future needs when planning a new building.*

One of the most interesting features of planning a printing establishment is that the various departments are to a large extent complete within themselves, but the product produced in each department represents only a step in the manufacturing process and each department must have its proper relation to other departments if the complete operation is to be accomplished with speed and economy.

The plan of printing establishment is also influenced by the shape and pecularities of the site; its location in relation to the securing of raw materials and the disposal of the finished product and its relation to traffic arteries.

While no plant should be designed around personalities, this personal element should be given careful consideration; much valuable material affecting the planning of departments should come from those managing the departments, but unless one carefully weighs information thus obtained the plan is liable to represent successful, detailed elements, not always well related to other elements of the plan.

The department affecting more than anything else the general scheme of the plan, is the press room. The proportions of this room, particularly in a newspaper plant, are absolutely fixed by the pecularities of the press; because of the pressroom's relation to the print paper storage area, the mailing room and the trucking space, these four elements largely establish the location of all other departments.

Another element which makes the planning of printing establishments intriguing to the designer, is the element of change in processes, methods and equipment. The revolutionary improvements accomplished in the past twenty years, it is altogether conceivable, will be more than equaled in the next twenty years, unless the plan is arranged so that one department can expand while another department shrinks, a modern plant today may be an obsolete plant within a few years. This element of change should suggest to the planner the fewest possible columns within the building and the use of *no* heavy structural walls.

When one considers the amount of money invested in equipment, and the need of continuous production one marvels that so many publishing plants are housed in non-fireproof buildings. If a new building is contemplated, by all means it should be of fireproof construction and the floors should be carefully designed to safely carry the concentrated loading of the heavy equipment with proper isolation of vibration.

Of necessity, publishers and the heads of mechanical departments appreciate the importance of proper maintenance and adequate servicing of equipment on which their business depends, but experience shows that the careful consideration received by printing equipment is not given equipment incident to the mechanics of the building itself. Therefor the building designer should use good judgment in placing his mechanical features incident to heating, ventilating, air conditioning, lighting and sanitation where their proper inspection and care is forced to the attention of some one who must be delegated to do this work if the building is to be properly maintained and economically operated.

While manufacturers have provided, and doubtless will continue to provide, the industry with equipment producing more, and better work, buildings designed for the publishing business should provide for expansion.

This expansion feature requires the careful and combined study of the plant planner and the publisher, as one must make possible expansion without penalizing the operating over-head until such expansion is necessary.

Later articles will deal with the detailed planning of individual departments, types of building construction most adaptable to the requirements of the printing industry and of special features such as insulation, lighting, air conditioning, etc.

**Architect and Printing Engineer, Cleveland, Ohio.*

# Large Edition Economies on Runs of Moderate Length

## THE COTTRELL CLAYBOURN TWO-COLOR ROTARY PRESS

This new press is available in three sizes, as follows:

| | MINIMUM SHEET | MAXIMUM SHEET | MAXIMUM FORM |
|---|---|---|---|
| No. 1 . . | 11x17 | 29¼x28 | 28¾x27½ |
| No. 2 . . | 12x21 | 29¼x45 | 28¾x44½ |
| No. 3 . . | 18x24 | 36 x48 | 35½x47½ |

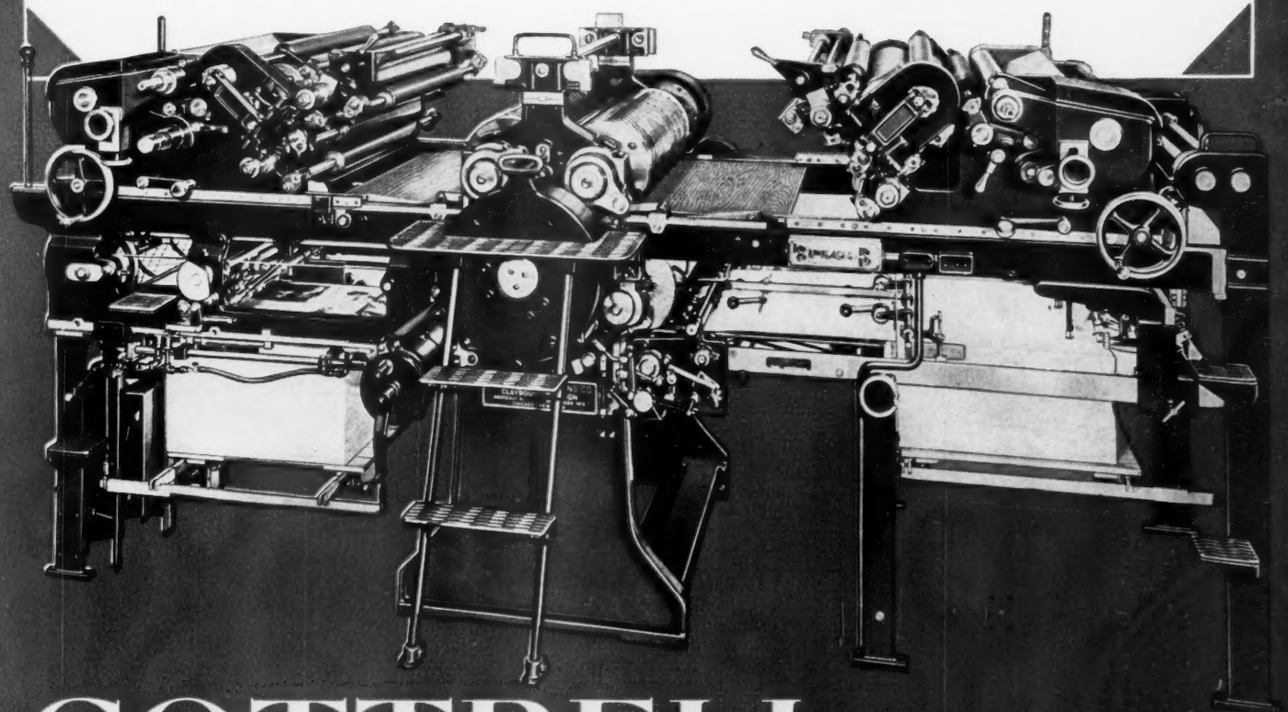
With the perfected curved plates which are now easily obtainable, makeready on this press is practically eliminated; and first-grade work, including process, can be run at speeds up to 5200 two-color sheets per hour.

Thus the commercial printer can now obtain, on jobs of ordinary size, the great economies which are enjoyed by large edition printers.

A booklet describing this press in detail will be furnished on request. The booklet is itself an interesting example of work produced on the Cottrell Claybourn Rotary, printed without makeready from plates made with Claybourn Plate Making Equipment.

C. B. Cottrell & Sons Co., Westerly, R. I.
**Claybourn Division: Milwaukee, Wis.**

NEW YORK: 25 East 26th Street • CHICAGO: 332 South Michigan Avenue • SMYTH-HORNE, Ltd., 1-3 Baldwins Place, Gray's Inn Road, LONDON, E.C. 1.



# COTTRELL

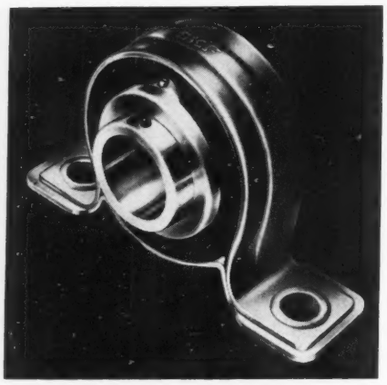
## two-color rotary press

# Equipment—Supplies

### SKF Rubberflex Pillow Block

A compact, sound-insulated pillow block, is being introduced by SKF Industries, Inc. It has been named "Rubberflex" Pillow Block and is the result of more than two years' research.

This new unit comprises a self-locking bearing of the SKF "Grip-lock" type. It is inherently aligning, thus compensating for



inaccuracies of set-up and conditions of shaft misalignment without binding or in any way impairing the load-carrying capacity of the bearing.

The bearing is encased in a pressed steel housing equipped with felt seals to exclude dirt. The housing is provided with means for lubricating the bearing. The bearing and housing are surrounded with an elastic material having special sound-absorbing characteristics, and the material has been specially treated to make it impervious to oil and grease.

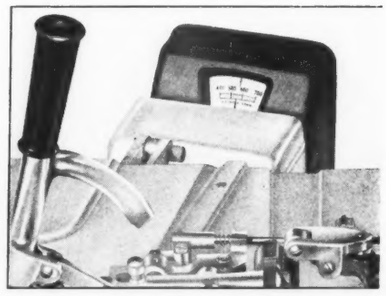
The SKF "Rubberflex" Pillow Block, states maker, constitutes a rugged, inexpensive unit which has wide application in those fields requiring anti-friction bearings with unusually quiet operating characteristics. These units are first being released in the ¾ in. and 1 in. shaft sizes.

### Ludlow Indicating Thermostat

Ludlow Typograph Company, in making announcement of a new thermostat, states the temperature of the metal in the crucible is accurately shown by the new Indicating Thermostat, the dial of which is in plain view of the operator at all times. The Indicating Thermostat is mounted at the back of the new terminal box which is attached to the rear of the crucible. This style of mounting allows for full encasement of all wires. The casing and cover of the thermostat are made of heavy cast aluminum.

The dial of the Indicating Thermostat is provided with two pointers, with a temperature scale in degrees Fahrenheit between them. A red control pointer, which can be moved easily to the desired temperature by turning an adjustment screw, points downwardly on the dial to the maximum temperature desired. A black temperature-indicating hand, pointing upwardly on the dial, indicates the actual temperature of the metal.

In operation, the thermostat opens the heater switch in the panel box when the crucible temperature reaches that for which the red control pointer is set. When the crucible temperature falls a few degrees below that for which the red control pointer is set, the thermostat automatically closes the heater switch in the panel box.



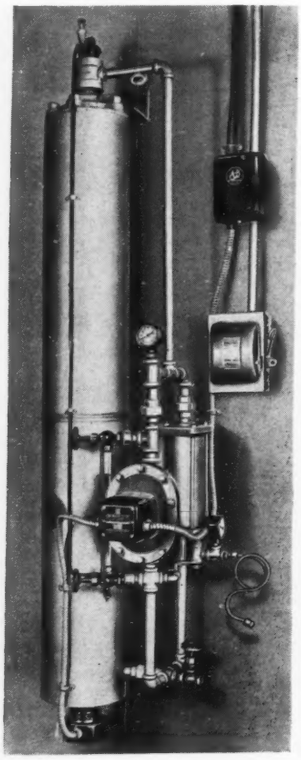
*View of new Indicating Thermostat for the Ludlow Metal Pot. A red pointer is set for the desired metal temperature. A black temperature indicating hand, indicates the actual temperature of the metal at all times. Temperature of the metal is automatically controlled. When metal temperature falls below the temperature indicated by the red hand, the thermostat closes the heater switch in the panel box to close the pot heating circuit to raise the metal temperature.*

The Ludlow Indicating Thermostat is constructed to withstand a maximum temperature sufficiently high to give ample protection against overheating from any cause.

Ludlows now in opeartion can be changed over to accommodate the Indicating Thermostat by the installation of a new terminal box.

*P-Double-E File No. 1G.*

### Steamaire Humidity Units



Rutherford Machinery Company announces Steamaire automatically controlled humidifying equipment in four models for maintaining a minimum of 55% relative humidity in the pressroom, bindery, or in the entire plant if required. Steamaire is an electrically controlled machine which makes its own high-pressure steam or a model may be secured which will use the high pressure steam in your plant, if it is available.

Steamaire, maker states, mixes one part of steam with five parts of cold water, atomizes the mixture into a vapor as fine as smoke and injects it into the air at high velocity. Vapor is absorbed by the air and circulates evenly in every direction from the machine. Vapor is cold and reduces room temperature by a few degrees.

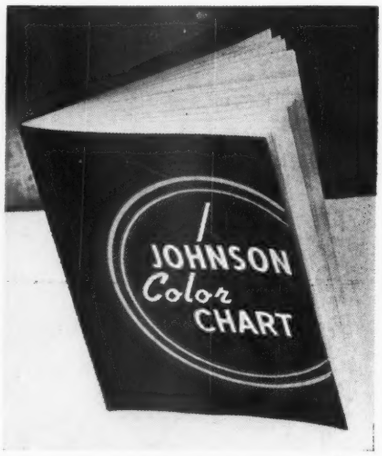
Steamaire units may be placed directly over machinery or product, approx. 2 ft. from ceiling, maintain equal humidity within 1% in all parts of the room. It is claimed that the setting of a dial on automatic humidity control (using one or more units as required) at the minimum humidity it is desired to maintain (usually 55%) will prevent humidity dropping below that figure at any time.

Maker asserts tests have proved conclusively that for the best results in handling paper and binding materials, the relative humidity should be about 50% to 55% at a temperature of 70 deg. to 80 deg. F. At this relative humidity, static problems are easily overcome. It is a misconception that paper stretching, shrinking, curling or wrinkling is caused by excessively damp or dry conditions. As a matter of fact, these troubles are really caused by extreme fluctuations from high to low humidity, or *vice versa*. Minimizing this fluctuation has been found to be the solution to these problems. Weather Bureau statistics show that the high relative humidity which may be expected, even on rainy days, is 85% indoors. In the winter this rarely occurs. If paper is purchased with 5% or 6% moisture content and stored in a pressroom it is claimed, with Steamaire equipment, there is no normal weather condition which will cause stretching, shrinking, curling or wrinkling.

*P-Double-E File No. 4C.*

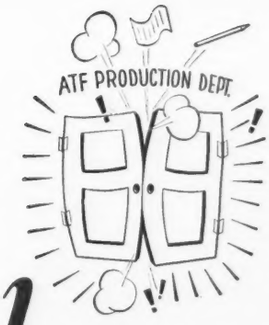
### Color Chart

A Color Chart booklet has been published by Charles Eneu Johnson & Co. The booklet contains 20 charts. Each of the charts shows three swatches of related colors in solids.




Also on the same chart the colors are shown in 25%, 50% and 75% screen. The booklet is wirebound with substantial black cover printed in red and blue. Size approx. 8½ in. by 11 in. *P-Double-E File Nos. 2D12 and 5W.*

(*Continued on Page* 32)




# *Press History in the making!*

*We're progressing rapidly with our new press . . . along the lines indicated by the thousands of pressmen who told us what the ideal press should have.* When you see it we think you'll agree that it has everything . . . and more!*

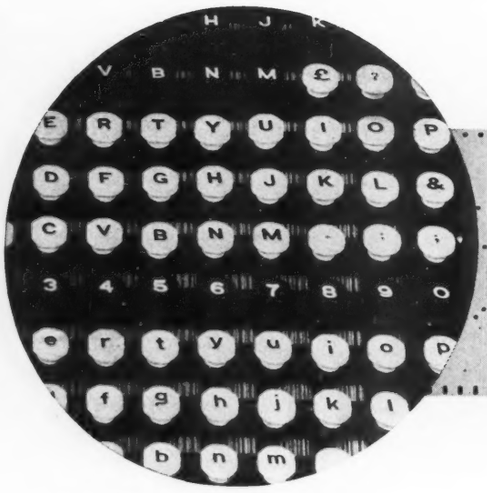
*It's coming soon so look for an early announcement of its release by your local ATF Branch Office*

**In ATF's Ideal Press Contest, Sept. 15 to Oct. 24, 1938*

**Wait for the press that the pressmen Okayed!**

# American Type Founders

200 Elmora Avenue, Elizabeth, N. J. · *Branches and Selling Agents in 24 Principal Cities*



*Controller Paper Is Perforated at the Monotype Keyboard*

# The Tie that Binds . .

being used under a wide variety of climatic and weather conditions, Monotype Controller Paper is manufactured to meet most rigid specifications for quality of fiber, thickness, weight, tensile strength, surface smoothness, receptivity to moisture, etc. After manufacture and delivery to us in 235-pound rolls, 27 inches wide, the paper goes through specially designed machines, where it is slit into strips 4 5/16 inches wide, given marginal perforations, rewound in small rolls, packed 60 rolls in a box and shipped to Monotype users.

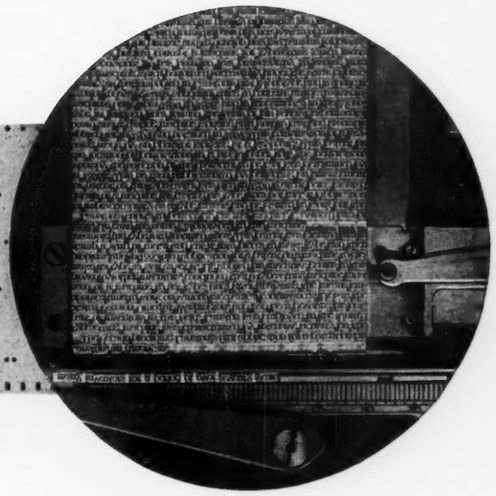
*Monotype Style D Keyboard*

*The Monotype Typesetting Machine Was Specially Designed for One-Man Operation*

## LANSTON MONOTYPE MACHINE COMPANY . .

Composed in Monotype Bodoni Family and Monotype Onyx, No. 404

# . . and Also Separates



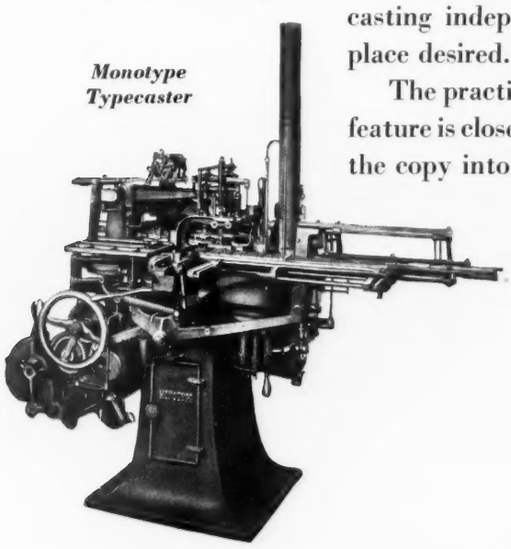
*Type Is Cast in Justified Lines at the Monotype Typecaster*

The Monotype Typesetting Machine consists of two distinct and separate mechanical units, each complete within itself yet functioning together to deliver a finished product—justified lines of type. The connecting link—the tie that binds and also separates—is a perforated strip of paper, called the "Monotype Controller Paper."

Monotype Controller Paper is first perforated at the keyboard by the operator and later serves to guide the typecaster in selecting the characters to be cast, determining the set-width of each type as it is made, and fixing the thickness of the spaces between words required properly to justify each line.

The separation of keyboarding and typecasting is a feature of Monotype Machine Typesetting which has stood the test of time and trial for almost forty years. This separation makes it possible to do either the keyboarding or typecasting independent of each other and at any time or place desired.

*Monotype Typecaster*



The practical result of the operation of this Monotype feature is closer concentration of attention in transmitting the copy into type, better typography, fewer errors and greater efficiency in the operation of both units.

---

*You will be under no obligation if you ask us to help you determine whether or not a Monotype Typesetting Machine will function in your plant to build new business and increase your profits.*

WRITE IF YOU ARE INTERESTED

**. . TWENTY-FOURTH AT LOCUST, PHILADELPHIA, PA.**

# SINCLAIR & VALENTINE CO.,

## *Supergloss Inks*

## LEAD THE FIELD!

**The specimen on the opposite page was produced by letterpress under normal conditions. This result may be duplicated in any plant with S&V SUPER-GLOSS INKS which are now in use throughout the country. Many of our friends are using them for Labels, Box Wraps, Magazine Covers and wherever the job formerly required Overprinting or Spirit Varnishing.**

**SUPERGLOSS INKS are also made for Offset with equally satisfactory results. Write, telegraph or phone to our nearest Service Plant for full details.**

*SERVICE FROM COAST TO COAST*

*Sinclair & Valentine Co.*

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Printed with Sinclair and Valentine Co. *Supergloss* Inks

See opposite page for further information

# Setting standard for obtaining copy value in newspaper engraving

III.

OF ALL the problems facing us in newspaper illustration, actual copy going to the engraving room provides the most dissension as practically every one connected with copy handling views copy from a different angle.

The simplest method is to set a standard and adhere to it as closely as possible. This can be done in each and every newspaper by submitting a variety of prints to the engraver, have them photographed on one negative, printed on the metal with no hand work on the print, etch them all together on the flat with no local nursing so as to duplicate the tone values of all the copies in exact relation to one standard photograph.

This will then give us the photographic reproduction values which can then be checked against the standard. A series of tests on various papers, contrasts and surfaces will prove revealing and will provide a definite means of checking to eliminate a good deal of the material often supplied the engraver.

The illustration at the head of this article was especially prepared to bring out one particular point in copy handling as applied to the checking of the printed newspaper or the proof of the engraving.

The engraving is made from two photographs, printed from the same negative. The first portrait, on the left, shows a copy properly printed on the correct contrast paper with good whites and blacks. The third engraving, on the right, is reproduced from a print made from the same photographer's negative, printed on the wrong grade of paper and slightly overtimed. This is not extreme and engraving plants are flooded with this type of copy. Very few if any newspapers would refuse it for reproduction.

The center engraving is made from the first copy and is an accurate illustration of the utter impossibility of judging proofs or the printed newspaper without the original copy. This result is not unusual from good copy. A superficial examination of the newspaper without all the facts at hand and without a neutral judge to make the decision will inevitably bring forth any or all of the following statements:

Under-exposed photographer's negative.
Over-exposed photographer's print.
No retouching.
Poor retouching.
Poor engraver's negative.
Wrong kind of engraver's negative material.
Overprinted or underdeveloped metal print, or coating of metal print too heavy.
Shallow or shouldered etching.
Improper basing in the composing room.
Shallow mat.
Bad casting metal or uneven cast.
Poor paper, poor ink or bad press conditions.

This series of statements is not unusual but is of regular occurrence in many papers. When questions are asked of men in different departments, the answer frequently depends on the outcome of a previous investigation. This is to be expected and no onus can be attached to men who answer questions as to results if they are not fully conversant with general conditions of reproduction.

*(To Be Continued)*

## C. C. Rhame Felicitated

C. C. Rhame, manager of the New York Agency of the Mergenthaler Linotype Company, is being felicitated by his many friends in the printing and publishing business on the rounding out, December 4, of twenty-five years of service with the Mergenthaler organization.

Mr. Rhame began his printing apprenticeship at twelve, and had experience as printer, Linotype operator and composing room executive when he joined Linotype on December 4, 1913. Since then he has served the company in various capacities. He was made New York Agency manager in October, 1929.

Mr. Rhame is a member of the Rotary, Engineers, Advertising and Lotos clubs, all of New York, and of the Crescent Athletic Club of Brooklyn and Huntington, L. I. He has been a member of the International Typographical Union for 32 years, and for many years has been a member of the Newark local, No. 103.

## McKiernan Addresses Joint Meeting

Kenneth G. McKiernan, author of *PAR For Printers*, will discuss "Planning For Profit" before a joint meeting of Dayton (O.) District Typothetae and the Dayton Club of Printing House Craftsmen on Tuesday evening, January 17. International President John M. Callahan will head a visiting delegation of members from the Cincinnati Club of Printing House Craftsmen.

## Correction

An error appeared in the article *Constant Tension Web Control*, by R. McC. Johnstone, page 135, November issue of *Printing* Equipment *Engineer*. It was made to appear that the Cameron Type 24 Constant Tension Mill Roll Equipment operates at speeds ranging up to 6000 f.p.m. The operating speeds range up to 600 f.p.m. rather than 6000 f.p.m. as stated in the original article.

*An installation of daylight fluorescent lamps in a publishing house. In this corner of the room press proofs of color work are compared with the original paintings. The color-corrected light has proved very satisfactory for this sort of color matching.*

# Lighting

## Elements for the improvement of seeing conditions and for plate-making recently announced

IMPROVEMENTS in lighting fixtures and development of new lighting elements for better seeing conditions in printing plants have been announced in *Printing* EQUIPMENT *Engineer* from time to time. Three of the latest developments have been announced by General Electric and by General Electric Vapor Lamp Co., the latter appearing in the December issue.

As a means of providing a nearer approach to actual daylight under general illumination conditions, the new Fluorescent Mazda Lamps recently developed by General Electric, are adaptable for the improvement of seeing conditions in the printing plant especially where color matching enters into production operation.

Robert W. Morris, Nela Park Engineering Department, General Electric Company, describes the fluorescent lamps and the new 1000 w. water-cooled mercury lamp. The latter, it is predicted, will be found of high utility in plate-making operations.

Mr. Morris states "Fluorescent lamps are tubular, resembling somewhat the familiar Lumiline lamps in general appearance and in having base contacts at both ends. The lamps are electric discharge sources since they depend upon low-pressure mercury arcs to produce ultraviolet radiation which activates the fluorescent chemicals with which the inside surfaces of the tubes are coated. These chemicals or "phosphors" as they are termed may be considered energy transformers which step the invisible ultraviolet radiation down to the visible part of the spectrum. The phosphors tend to give a more continuous spectrum than is supplied by most gaseous sources, for the energy which they step down is not radiated as a single line but as a broad band in the pink or green or blue or whatever the color may be. Proper selecting and blending of the phosphors makes it possible to produce radiation in practically any desired part or parts of the spectrum. This permits the production of colored light by the additive method in hitherto unobtainable pastel tints as well as in pure colors.

"While fluorescent lamps open up new possibilities for effective use of colored light in many fields, it appears that probably one of the most extensive and most valuable uses of the lamps will be to supply light of daylight color quality for all sorts of purposes. The spectral quality of light from the daylight fluorescent lamps is the closest approach to natural daylight that it has ever been possible to produce directly by any artificial illuminant at an efficiency even approaching that of these lamps.

"Like all electric discharge sources, fluorescent lamps require auxiliary equipment to control the lamp current. Each lamp must have its own auxiliary. This equipment consumes a certain amount of energy; at present the magnetic switch type uses about 10% of the lamp watts and the thermal switch type as high as 25% of the lamp watts.

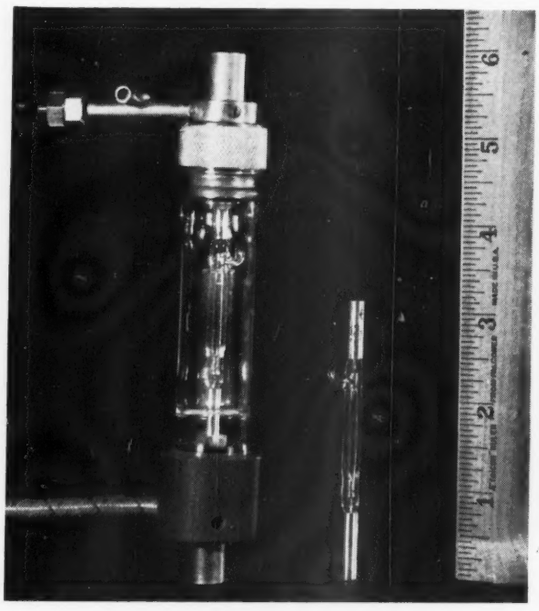
"The bulb, coated on the inside with the phosphor, contains a small globule of mercury and a small amount of argon gas at low pressure. Two coiled tungsten wire electrodes or cathodes covered with an electron-emissive material are located within the tube, one at each end. Since these cathodes are of the preheated type it is necessary to have two contacts at each end of the lamp. Two pins connected to the ends of the cathodes project from the insulated section of each base.

"At present the lamps are available in four sizes and three wattages: a 15 w. lamp 18 in. long made in both 1 in. and 1½ in. diam.; a 20 w. lamp 24 in. long and 1½ in. diam.; and a 30 w. lamp 36 in. long and 1 in. diam. The lengths given include the sockets.

"Although fluorescent lamps have been available only a few months they have already found application in many different lighting fields. The daylight color has proved most popular and its extensive adoption has testified to the preference that many poeple have for daylight quality light.

"The relatively high efficiencies of the lamps offer special advantages in air-conditioned buildings. Since the heat produced by the lighting system is a major factor in the refrigeration load of an air-conditioning system the relative coolness of fluorescent lamps permits more economical operation. Moreover, the lamps lose only about half as much energy per watt in the form of radiant heat as do incandescent lamps.

*(Continued on Page 46)*



*The 1000-watt Type H-6 mercury lamp is the highest wattage mercury lamp developed to date, but it is one of the smallest in physical size (a quartz capillary tube 3 in. long). This lamp, it is predicted, will have important uses in the photo-engraving and photo-mechanical plate-making fields. Through its use, it is possible to make clean cut engravings of poster size.*

*Right:—the lamp by itself. Left:—the lamp in the glass water jacket in which it must be operated. A rapidly moving stream of water (at least 3 qts. per min.) surrounds the arc tube and is conducted through a glass water jacket in which the lamp is operated. Has an efficiency of 65 lumens per watt.*

## YUKON GOLD

Adventure had not yet gone from the land in the 1900's, when the Yukon opened the last great goldrush. Those early days saw as well the coming of the Kimble Idea... a *specialized* motor for printing equipment. From that day to this Kimble Motors have *earned* the position they occupy in the esteem of leading printers; they are Star Performers in the race for printing profits and prestige. KIMBLE ELECTRIC COMPANY, 2011 W. Hastings Street, Chicago, Ill.

**KIMBLE MOTORS**

*Distributed by AMERICAN TYPE FOUNDERS*

*Branches and Sales Agents in Twenty-Five Cities*

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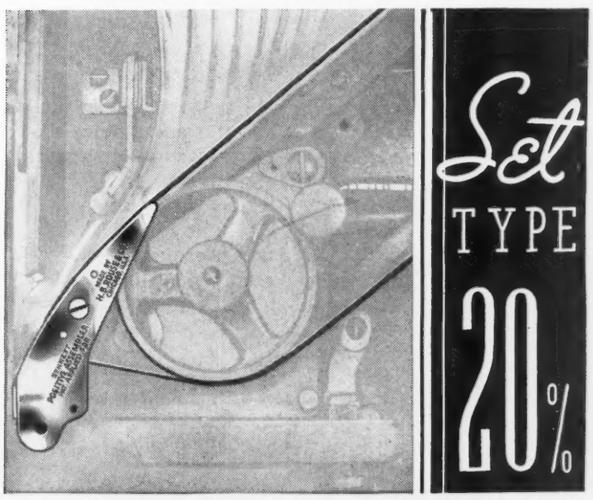


A line or two more each minute means added profit from your linotype production.

The Sennett Positive Assembler speeds up operation by eliminating jumping mats and consequent transpositions. It helps operator set clean proofs whatever his speed. It is essential to accurate, quick production.

Thousands are in operation in leading printing and publishing plants throughout the world. It is a definite profit maker and time saver.

The Sennett Assembler can be installed in a few minutes without any machine work. See your ROUSE dealer or send for circular.

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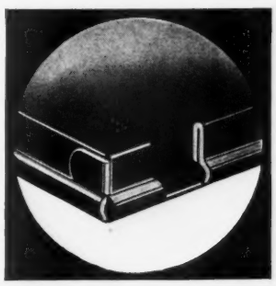
# *Announcing*

# 3 HAMILTON GALLEYS

## "PRECISION"

**The finest Galleys made. For better galley proofs . . . use Hamilton "Precision" Galleys. They are made of specially rolled steel that is uniform in thickness and unusually smooth. As a result, you get a uniform impression when proofing from 'Precision" Galleys. These Galleys can also be furnished with a zinc plated coating to make them rustproof, at an extra cost.**



**The double wall construction of "Precision" Galleys, as shown in the detail at left, insures long life in spite of hard usage.**

## "NO-RUST"

**No-Rust Galleys are made of copper-bearing lead coated steel. The surface of the steel is coated evenly with lead for your protection against rust . . . the uniform thickness makes it possible to pull good proofs direct from the galleys.**

**Single wall construction as shown in detail at right is used in all Hamilton "No-Rust" Galleys.**

## "ECONOMY"

**The lowest priced Galleys on the market. For those who require a large number of Galleys for storage purposes, the "Economy" single wall galley is ideal. The steel used is not as uniform in thickness as the "Precision" and "No-Rust" Galleys . . . they are strictly storage galleys.**

**HAMILTON MFG. CO.**
**TWO RIVERS • WISCONSIN**

# Slugs

(*Continued from Page 13*)

plunger made its downstroke precipitately, while the new one operates with the necessary force and a follow-through.

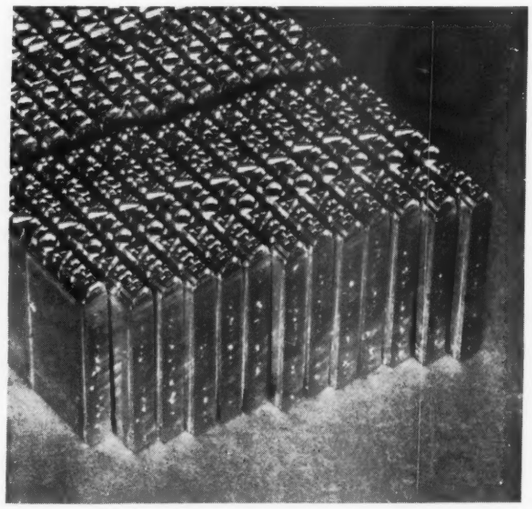
Over a period of years, the holes in the pot crucible mouthpiece become enlarged and slightly funnel-shaped, due to reaming at specific intervals. To overcome this condition in the *Star* machines, the pots were lowered until one-third of the mouthpiece holes were covered by the bottom half of the mold at the cast. In fact, this was done on all of our pots, regardless of the size of the mouthpiece holes. We worked on the theory of keeping the metal as close to the bottom of the mold as possible, especially for the smaller slugs, in order that the air not forced through the matrices would be forced up and back toward the vents, thereby pocketing the air that doesn't escape from the mold cell down into the slug body and far enough away from the characters on the slug to make it practically impossible for the type to sink.

The last, and perhaps the most important, step in producing slugs for stereotyping is the manner in which all of our Linotype mouthpieces have been vented. We have found that a vent that is made slightly oval, without being sharp at the bottom, sticks to the back of the mold at the breakaway better than a narrow v-shaped vent, and leaves very little, if any, vent sprue clinging to the mouthpiece. The accumulation of vent sprue residue on the mouthpiece tends to cause back-squirts if the mouthpiece is the least bit "cold."

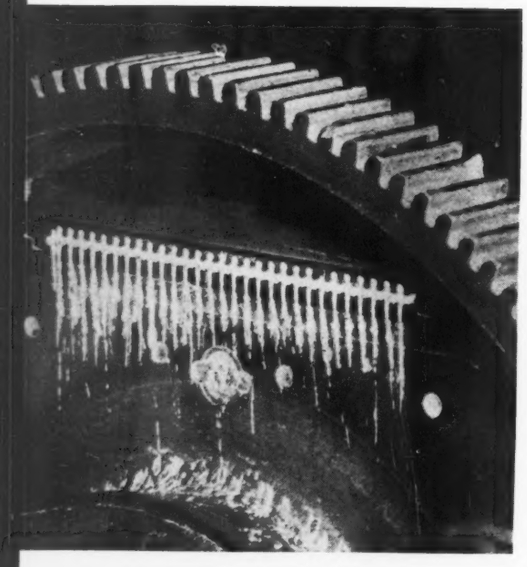
Additional venting of the mouthpiece has been accomplished by spotting the top of each vent then opening the vent to half the width of the spot. The gauge used for spotting the vents was made by utilizing a discarded wedge-type mouthpiece. The following directions are applied as if you were looking at the mouthpiece on a machine after the mold disk had been pulled forward. Plug the first hole on the right end of the wedge-type mouthpiece which is to be used as a gauge, then with a No. 52 drill place a hole 1/8 in. down from center to center in the vent between the hole plugged and the next hole to the left. The hole for the pin on the left end of the gauge is placed 1/16 in. to the left and 1/8 in. down, center-to-center to the left of the last hole. It is impossible to get the pins you have applied to the gauge in the wrong holes in the pot crucible mouthpiece if this method is followed, because the pins fit in the two end holes when the gauge is in position for spotting the top of the vents. If this gauge is made from an old-style gib mouthpiece it can be drilled and tapped for 6-32 at both extreme ends, in line with the pins, which will make it easily removed by turning in on the screws. In addition, these screws will not interfere with the hand drill chuck when spotting the mouthpiece with the No. 52 twist drill. The outside ends of the gauge pins should, of course, be piened so they cannot be left in the mouthpiece when the gauge is removed.

After the vents are spotted, and the gauge is removed, a 3/32 in. drill is used, to open the spotted vents on the machine to a depth not to exceed the greatest depth of the vents. The drill should be ground to make a round-bottom hole.

To connect the vents to the spots in the mouthpiece, a worn 8-in. flat file is ground on the end and so shaped that the edge fits into the vent with the cutting edge up. In grinding the venting tool point, provide clearance on the front and sides to avoid marring the area immediately adjacent to the vent slots. Also, the file should be ground smooth and slightly rounded on the bottom



*These 8 pt. 30 em slugs have been trimmed down to 24½ picas to show solidity. The air bells are distributed well down within the slug body away from immediately under the characters. Fourteen of these slugs, 24½ picas wide, weigh approx. 1 lb. 13 oz.*



*View of Linotype slug just as it was cast in the mold before the jets and vent sprues were trimmed off by the back knife. Notice the small "buttons" cast at the top of the sprues. This method of treating a metal pot mouthpiece to insure casting extra solid slugs to withstand dry mat molding machine pressure is explained by W. T. Henderson in the accompanying article. The vent sprues on this slug are approximately 3/4 to 1 in. long. Notice also that the jet projections have pulled away from the mouthpiece and are attached to this slug.*

*This illustration clearly indicates the solid condition of a 30 pt. headletter slug cast with mouthpiece treated according to the description by W. T. Henderson in the accompanying article. The slug at the top has been trimmed to remove all of the letter characters and to show that there are no air bells immediately under the printing face. When cast properly, the air bells in slugs will be distributed or broken up into small pockets well down in the slug body. When cast in this manner, the slugs will resist "bowl-depth" stereotype molding pressures.*

edge to prevent marring the mold disk pocket. The pocket serves as a leverage seat for the file while venting the mouthpiece.

For the above operations, the first elevator is lowered to the vise cap. The vise then can be opened to the second position. Take out a mold (preferably a blank) pull the plunger pin, disconnect the mold disk lever and link, pull the pot forward and place a block of metal or wood 1½ in. thick between the pot lever and the pump lever roller, push the mold disk toward the pot with the empty mold pocket in front of the mouthpiece. Proceed by working on the mouthpiece vents through the mold pocket.

Rest the venting tool on the bottom of the mold pocket for leverage when cutting the vents. When you have finished the venting operation the burrs must be stoned off the mouthpiece. Before replacing the mold, it is well to connect the machine to operating condition again and cast several slugs. Stop the machine before the back knife trims the fourth slug. If the vent sprue is from ½ to 1 in. long when the back of the mold is examined you will have a slug that will stand up under stereotyping beyond expectations.

### Marks Hardened Steels

A new, low-priced Electric Etcher marks iron and steel and their alloys, including hardened steels, legibly and permanently. It is a development of the Ideal Commutator Dresser Co.

The etcher is used in the same manner as a pencil and engraves names, sizes, models, numbers or other important data on smooth surfaced parts, tools, dies, saws, plates, gears, etc.

The complete unit weighs 12 lbs.

Three etching speeds are controlled by a switch on the primary cord. Depth of the etching is governed by the speed at which the point is moved over the metal.

Have you set up your own P-Double-E Filing System as illustrated and described in the December issue of *Printing* EQUIPMENT *Engineer*.


# Install PLANE-O-PLATE

✓ COMPACT
✓ STURDY
✓ ACCURATE
✓ EFFICIENT
✓ ECONOMICAL

## The Precision ROTARY SHAVER that sets a new Peak in Value!

At last a shaver has been built that will eliminate irregular plate level troubles once and for all—at an investment any Publisher or Printer can afford! Plane-O-Plate will shave down flat casts of all kinds to exact type level for printing. It will step up printing quality, save time and money in your stereotyping department. Sturdily and compactly constructed, powered with a General Electric motor and equipped with Timkin bearings—Plane-O-Plate is a high-speed, heavy-duty machine. A large direct reading dial micrometer accurately indicates any desired thickness from "zinc" to above "type high". Invest in this remarkable machine. Bring the unmatched efficiency of rotary shaving to your flat work. Let Plane-O-Plate show you the way to new profits. Write for free literature.

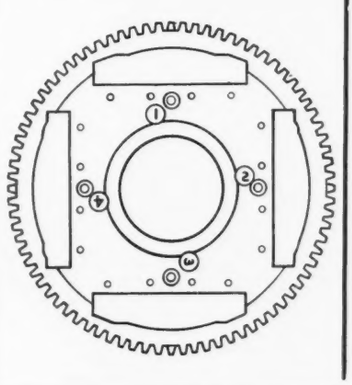
**A Few Recent Plane-o-plate Installations:**

Houston Post—Houston, Texas
Post Dispatch—York, Pennsylvania
Missoulian Publishing Company—Missoula, Montana
St. Petersburg Times—St. Petersburg, Fla.
Recorder Publishing Company—Greenfield, Massachusetts
Press-Register—Mobile, Alabama
Columbia State—Columbia, S. Carolina
Daily Republican Times—Ottawa, Illinois
Iowa City Press Citizen—Iowa City, Iowa

*Sole Selling Agents in Great Britain, Northern Ireland and Eire—Funditor, Ltd., London, E.C. 1*

**MONOMELT CO.**

1611 Polk Street N. E. Minneapolis, Minnesota



## LINOTYPE MOLD DISKS REBUILT

Our patented process substitutes a steel ring in place of broken or cracked iron rim. We also true up warped and sprung disks in the process. Loans and exchanges arranged. Rebuilding charge is only $30.

### MAGAZINES FOR LINOTYPES

This magazine (for models L, 4, 5, 6, 8, 14, 18, 19, 25, 26) represents culmination of ten years' constant improvement manufacturing magazines. It is light—20 pounds lighter than an old style magazine. We use duralumin for top plate and brass for lower plate. Resulting magazine has all best features with criticisms of none. It is light, yet rugged. $95 each for full length—$90 each in lots of six or more. Splits $80 each—$75 each in lots of three or more. Time payments arranged. Also sold by nearly all dealers.

**NEW CATALOG** containing 108 pages, 8½ x 11, spiral-bound, is free for asking. Shows the many parts, accessories and repairs on which we can save you money.

**MATERIAL WANTED:** We buy, sell and trade new, used and rebuilt molds, magazines, fonts, Monomelts, motors, etc. Tell us of any surplus material.

**MONTGOMERY & BACON, TOWANDA, PA.**

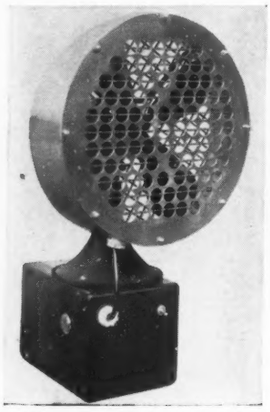
# Equipment

(*Continued from Page 22*)

### Device Neutralizes Static Electricity

An ionizing device has been developed by the Simco Company for the purpose of producing very high concentration of ions in air. It can be designed to cover any present air outlet, or can be furnished mounted in front of a fan. This development finds application in rotogravure and manufacturing processes where inflammable or explosive vapors are present. In some plants dry uncharged air is taken from another room and charged with the proper kind of charge to neutralize the highly charged atmosphere surrounding hazardous operations.

The device consists of a flat metal plate with very closely spaced holes drilled in it. A series of miniature static bars are mounted on the back of the plate and suitably insulated from it. In the exact center of each hole there is a very sharp point just short of flush with the outer surface of the plate. The bars are



charged by means of a special Simco Midget Power Unit capable of producing either a plus, minus, or both plus and minus potentials, alternately. The air as it passes through the holes is highly ionized and is claimed to be capable of removing electric charges from any material, vapor or the atmosphere itself at a distance of 10 ft. or more. Practically no ozone is produced by the ionizing plate, not even an odor of ozone. The ionizing plates are frequently made in the form of circular disks in all sizes up to 4 ft. diam.

To measure the concentration of the ionization by the ionizing plate, the Simco Company had a special instrument designed and built by one of the physicists of the Research Department of Franklin Institute. It was found that a concentration of one million ions per cc was necessary to remove charges from rapidly moving materials, but that much smaller concentrations were useful in discharging powder laden air or air containing inflammable gases.

### The Holroyd Perforator

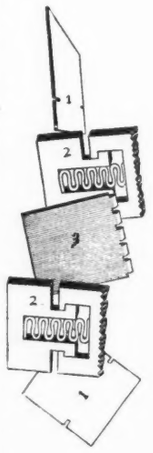
The Holroyd Perforator consists of a sheathed perforating rule arranged in such a way that the perforating rule itself does not carry ink to the paper. The side plates, or sheaths, carry a border or rule design and are projected approx. ½ point above type high when in normal position, but when the perforator is under impression the sheath rules are compressed. As the press impression is released, spring pressure exerted upon the sheath rules at either side of the perforating rule push the paper from the perforating rule. When the ink rollers pass over the form, the sheath rules protect them from any cutting action by the perforating rule itself. The base portion of the Holroyd Rule is thicker than the upper section to permit free action of the perforating rule when locked in the form.

The Holroyd Perforating Rules are made on the point system. A standard set contains 25 in. (150 ems) made up of thirty units (ten each of 6, 5 and 4 em pieces in length). The complete unit is 14 points in width.

Perforating can be arranged as close as 4 points from type matter. Two-way perforating can be accomplished in one operation. Manufacturer states as many as 15 sheets of imitation parchment can be perforated together on an ordinary platen; also, tough boards and thin metal stock can be perforated.

Further information respecting the Holroyd Perforating Rule may be obtained from European Type Founders, Inc., direct, or in care of *Printing* EQUIPMENT *Engineer*.

*P-Double-E File No. 1X3.*




*Component parts of Holroyd Perforating Rule. A unit consists of side plates* 1, *sheath rules* 2 *and perforating rule* 3.
*The side plates,* 1, *are made of brass. Being lower than type high, they do not print. These plates act as backing members to encase the perforating rule and the sheath rules.*
*Sheath Rule,* 2, *of which there are two, consists of three parts: base, printing member and spring. The base is slightly thicker than the printing member so that when locked in a form the printing member is free to be depressed under impression and to be returned by the spring when impression is released. The latter action permits the spring to push the paper from the perforating rule when impression is released. The top portion of the sheath rule carries a rule or border design which prints on either side of the perforating rule. When the ink rollers pass over the unit, the sheath rules prevent perforating rule cutting the roller because they extend slightly above the top edge of the perforating rule. At* 3 *is shown the perforating rule—made of hardened steel—which extends approx.* ½ *point above type high.*

### Precision Variable Speed Drives

Oilgear Company has announced development of two Precision Variable Speed Drives fitted with Precision Speed Controls. The controls, states manufacturer, give precisely the desired speed regardless of changes in load, voltage, frequency, speed of drive, oil temperature or running fits.

Oilgear Variable Speed Precision Control Drives are available in inregral transmission units in sizes from 2 h.p. to 20 h.p. In separate pump and motor transmission units they may be had in sizes from 2 h.p. to 100 h.p.

Besides other industrial applications, any processing machine may be driven by a group of Oilgear Precision Drive Units, one unit acting as master to control each of the other units (parallel control) or each unit acting as master to the unit next in sequence in the process (series or chain control). In either case, the speed ratios (or "draws") between the successive units are individually adjustable, and all units in the group will increase or decrease speed in exact proportion to changes in the master speed.

A characteristic feature of the drive, it is stated, is that it cannot be overhauled by a decelerating inertia load, so that winders and unwinders for paper machines, super calenders, printing presses, textiles, strip and foil, etc., driven by "DT" controls will start and stop automatically heavy rolls of material without sag or added strain in the web. By means of the precise speed adjustment of the disc

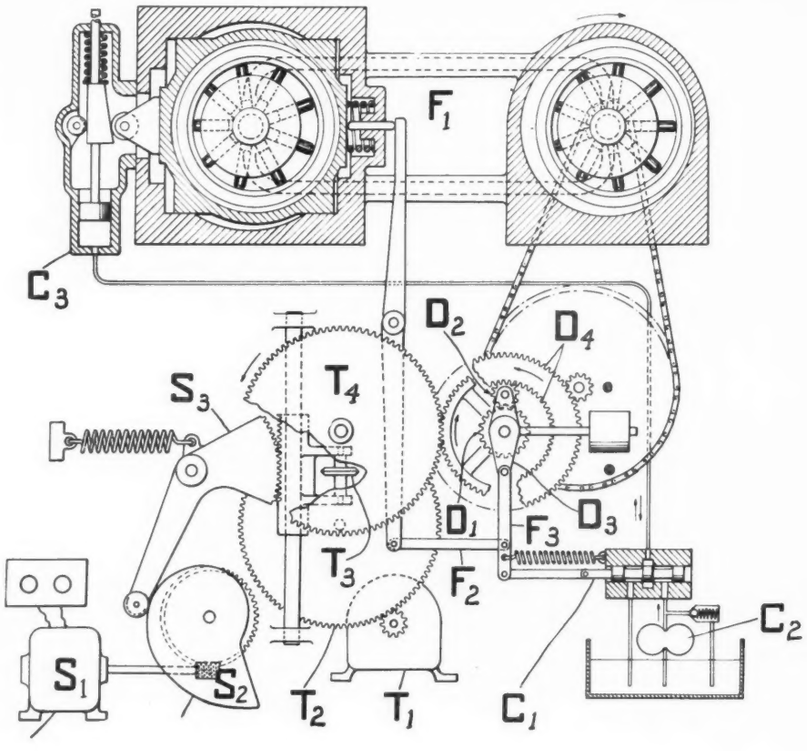



*Fig. 1—Disc Type "Dt" Precision Speed Control*

# FAMOUS *Bad* GUESSES

● The man who says, "I think I can get by," lays himself wide open to trouble. For in type metal as in everything else, it is better to be sure—safe in the knowledge that the metal is *right* with casting balance under control —than to guess and be wrong.

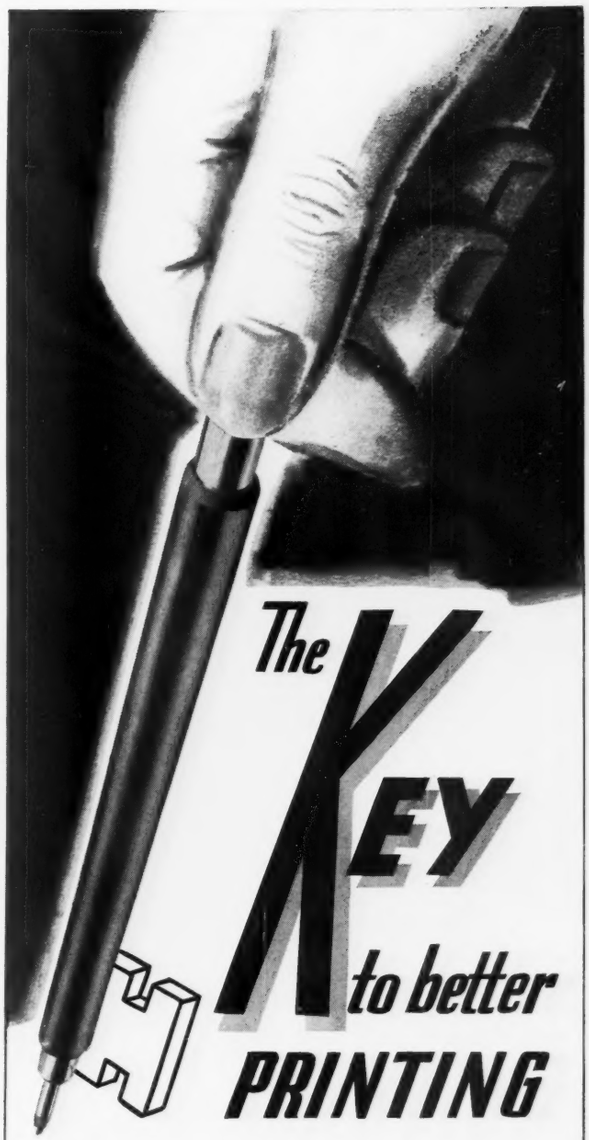
Guessing about your type metal is a short cut to trouble—while Plus Plan control by Imperial is your guarantee of freedom from type metal worries and production delays.

The Imperialized plant adds Imperial Plus Metal pound for pound of dross skimmed off—no guessing.

Do you want to eliminate costly recasts and production losses? Do you want sharper, solid casts, lower casting temperatures, less dross and less fuel consumption? Then write today for details about the Imperial Plus Plan.

**IMPERIAL TYPE METAL CO.**
PHILADELPHIA • NEW YORK • CHICAGO • LOS ANGELES

**Imperial**
**TAKES THE GUESS OUT OF TYPE METAL**



*The* **KEY** *to better* **PRINTING**

# MERCURY ROLLERS

*For All Branches of the Graphic Arts*

**RAPID ROLLER CO.**

D. M. Rapport
President

26th at Federal St.
Chicago, Illinois

control two or more rolls of paper or foil may be unwound from rolls of different diameters at identical surface speeds and at uniform tensions, and laid together for splicing or lamination.

Each unit drive may be controlled directly by time (small synchronous motor or pendulum) to give absolute speed in r.p.m., or by any master unit or roll stand when a precise speed ratio with another unit is required.

One of these units, when driven by an ordinary induction motor or line shaft, will drive its load at any desired speed, either constant, adjustable, or continuously varying anywhere between zero and maximum.

The essential principle of the "DT" precision control is that the hydraulic motor, driven by the flow of power from its variable stroke pump, simultaneously transmits the resulting speed back to a differential comparator. This differential also receives a standard or master speed from a small synchronous motor or a pendulum (time control), or from some other unit, roll stand or float roll (measuring control). In any case the differential continuously compares the actual speed with the master speed, and translates every discrepancy into exactly the increase or decrease of pump discharge necessary to correct the error. The action of the disc type control is so quick that fluctuations of speed due to ordinary load changes are caught and corrected within about 1/10 sec.

*Disc Type "DT" Precision Speed Control.* The "DT" disc type control is shown in Fig. 1 in its usual form with a small synchronous or Selsyn motor $T_1$ furnishing the master speed. If $T_1$ be a synchronous motor, the control is by time, and the speed of the hydraulic motor is in R.P.M. If $T_1$ be a Selsyn motor it receives its current from a Selsyn generator driven by its master unit, and follows the speed of that master through its entire range from stand-still to maximum.

The master speed is transmitted to the differential D through the friction disc ratio changer, comprising a movable idler disc $T_3$ spring pressed between the driving (master) disc $T_2$ and the driven disc $T_4$. Disc $T_3$ is mounted in a slide block, adjustable by a push-button control motor $S_1$ (or by manual or float roll control) through cam $S_2$ and segment $S_3$.

The master speed as modified by the ratio changer, is transmitted by gear teeth in edge of $T_4$ to the sun pinion $D_1$, the first leg of the differential comparator already mentioned. Planet gear $D_2$ is mounted on a radial valve actuating crank $D_3$ (3rd leg of differential) which actuates pilot valve $C_1$ through floating lever $F_3$. Planet gear also meshes with internal ring gear $D_4$, exactly twice its diameter. Any movement of pilot valve resulting from movement of axis of planet gear and crank $D_3$ changes the pump stroke and hydraulic motor speed. To hold pilot valve stationary, ring gear $D_4$ (2nd leg of differential) must be driven by hydraulic motor M at exactly one half of the standard speed of gear $D_1$. Any discrepancy will result in a slight movement of valve $C_1$. permitting oil from gear pump $C_2$ to enter pump stroke changing cylinder $C_3$ and increase pump discharge, or permitting oil to escape from $C_3$ and reduce pump discharge. When the change in pump discharge has corrected motor speed to again balance the speeds of the differential gears, the pilot valve will resume its neutral position.

In order to prevent hunting, an essential part of the mechanism is the follow-up lever $F_1$ which responds to the movement of pump slide block and by means of link $F_2$ closes the pilot valve as soon as the required correction has been made.

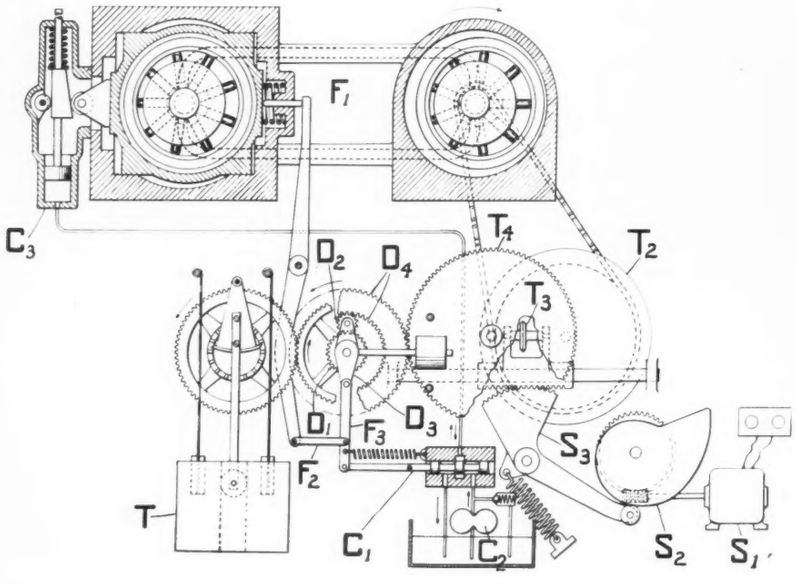
*Pendulum Type "DT" Precision Speed Control.* This form is required only when the frequency error in the power supply is greater than the tolerable error in hydraulic motor speed. The frequency error is as much as 0.3% in some large power stations. This, added to the necessary governing error of 0.2 or 0.25%, gives a total error of more than 0.5%. This is usually negligible, especially when all the master controls are driven from the same power supply.

Fig. 2 shown the time standard set by a heavy pendulum T instead of the synchronous motor of Fig. 1. This cuts out the frequency error. The ratio changing discs are moved to the hydraulic motor side of the differential. Otherwise the construction is the same.

Further information about Oilgear Precision Variable Speed Drives may be obtained from The Oilgear Company direct or in care of *Printing* EQUIPMENT *Engineer.*

*P-Double-E File No. ???*

*Fig. 2—Pendulum Type "DT" Precision Speed Control.*



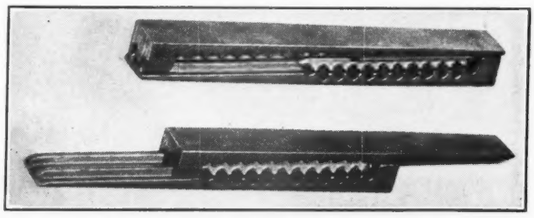

## Nu-Champion Quoins

Louis R. Jacobs has announced a quoin in which are incorporated several features. The malleable iron Nu-Champion Quoin, actual size, is 5¾ in., full length in lockup is 8 in., width of pair is ⅝ in. Each pair weighs approximately ½ lb.

Mr. Jacobs states an important feature of this quoin, besides its lockup length, is double track supplied on the inside surface. The double track or rib construction acts as a guide to keep the quoins from rising or tilting while being locked with standard quoin key. The quoins will not unlock until released by the quoin key, nor can they "jump up" while the form is on the press.

Further information regarding Nu-Champion Quoins may be secured from Louis R. Jacobs direct or in care of *Printing* EQUIPMENT *Engineer.*

*P-Double-E File No. 1F.*

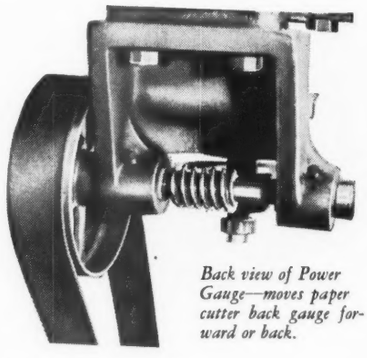


*Malleable iron Nu-Champion Quoin shown in open and locked condition.*

## Power Gauge for Paper Cutters

The Power Gauge made by Power Gauges can be applied to any existing standard paper cutter of any size or make. The purpose of the Power Gauge is to move the paper cutter back gauge forward or back upon manipulation of a hand switch positioned at the left of the hand wheel.

After the Power Gauge has positioned the back gauge in approximate position the hand wheel may be turned slightly for fine adjustment. A back view of the Power Gauge is shown in the illustration. Its operation is self-contained and is not contingent upon present operation of the cutter. Current for operation of the gauge is used only when it is in actual operation. The gauge is of sliding worm gear construction. Each unit is equipped with ½ h.p. dynamic brake repulsion induction motor.



*Back view of Power Gauge—moves paper cutter back gauge forward or back.*

Further information may be secured from Power Gauges direct or in care of *Printing* EQUIPMENT *Engineer.*

*P-Double-E File No. 4F.*

# Much to Learn Yet About Value of Color in Printing

*By* W. F. SCHAPHORST*

DURING the past decade or so this writer has been made somewhat "color conscious," and I dare say the same is true of many other users and prospective users of color in printing.

This color consciousness began with my reading in the famous Claude Hopkins book, "My Life in Advertising," that it had never been proved to his satisfaction that color in advertising really paid for its extra cost. I don't recall precisely when that book came out, but it must have been about ten years ago. If you have never read that book, by all means read it. It is well worth the time that will be required.

Nevertheless, despite the dash of cold water administered to color by Mr. Hopkins, its use appears to be on the increase, and I am naturally wondering whether science has now discovered that the use of color "pays." I wouldn't be surprised. In fact I am inclined to believe that color, properly used, *does* pay, which belief, I trust, removes me from membership in the "old school." I like to make myself believe that I am 100% modern when it comes to printing.

A prominent paper manufacturer has been testing the value of color for some time, and the results of the tests are truly interesting, but whether they are really valuable or not remains to be seen as I have not yet been able to derive any true nourishment from them. Thus, for instance, in their 1933 report they decided as the result of their research that violet was more attractive to men than any other color. Now, in their 1937 report they show that violet is the "least" attractive color to men. Now it ranks tenth whereas in 1933 it ranked first. That looks rather peculiar, doesn't it?

My contribution to a solution of this inconsistency is that the manufacturer did not stick to the same violet in both tests. There are many shades of violet, and I find that according to color cards manufacturers are apt to call anything violet all the way from pink to purple, and in no case have I ever seen a color card that was identical with the color of the actual violet flower. To be worth anything, it is logical that tests must be based on the same shade of color, with no variation whatever.

Again, not long ago a beautiful bulletin pertaining to color came to my desk. On the cover of this bulletin was a glass prism with a ray of white light shining into it. A prism, as every printer doubtless knows, breaks white light into the seven colors of the rainbow by deflecting them all. The greater the wave length the less the deflection. As a result red is deflected least and violet is deflected most. But in the picture on the cover, which showed all the colors very beautifully, the red was not deflected at all. That, of course, is incorrect, so I wrote to the manufacturer as follows:

> Referring to your beautiful folder, which I have just received, my attention was immediately caught by the illustration on the front cover and I am wondering whether it is correct. Is it true that red is on an exact straight line of the original beam of light? According to text books on physics, diagrams show that the original beam is bent and that no color is on a straight line.
>
> Also, I am interested in knowing how it was determined that black on yellow rates first, green on white second, red on white third, and so on. I don't question the truth of the findings, but would like to know how it is done so that there can be no argument about it.

(*Continued on Page 38*)

*Mechanical Engineer, Newark, N. J.

*How Many Lines of*

**NEW BUSINESS ?**

How big would a new advertising account have to be to bring in as much revenue as Kemp Immersion Melting?

There's one for the Mechanical Superintendent, the Advertising Manager and the Comptroller to figure out together:

Compute the average monthly gas bill. Take 40 per cent of that. How many lines of space would you give a new account for that money? That's a good way to visualize what Kemp stereo melting means—from the day it goes to work for you—for we *guarantee* it will save 40 per cent *or more* fuel whether you now use gas or electricity.

Of course, Kemp will give you other advantages, quicker melting, slower freezing, less dross, no more pot breakage, better working conditions. But forget all that for the moment and consider only dollars and cents. Nothing else you can buy will pay you back so handsomely. Write today for details of the Kemp guarantee that has amazed and delighted more than 200 other publishers of big papers and small papers. Address the **C. M. Kemp Manufacturing Co., 405 East Oliver St., Baltimore, Md.**

**KEMP of BALTIMORE**

# To Help You Keep Up-To-D

## . . . FOR PRODUCTION AND MI

**Circle the numbers on the coupon indicating the literature or information you want. Supply your name, title, department, firm name and address—we do the rest. Manufacturer or Supplier will send you information or literature about equipment or supplies advertised in this issue.**

### COMPOSING ROOM

**1** ASSEMBLER—"Sennett positive assembler speeds up operation by eliminating jumping mats and consequent transpositions. Set type 20% faster." Send for circular. Page 29.

**2** TYPEFACE "is a vital selling force. Ludlow enables newspapers to meet demand for effective typographic interpretation." Page 5.

**3** GALLEYS—"Get uniform impression when proofing. Hamilton galleys feature precision, economy, and lead covered steel construction." Write for further information. See page 29.

**4** SERVICE and PARTS for Linotypes and Intertypes. "Complete rebuilding and modernization plan." Will send further details. See page 39.

**5** MOTORS—for line composing machines—"enjoy reduced maintenance and production costs, trouble-free operation by use of Cushman offset motors." Send for further information today. See page 42.

**6** INTERTYPE—"features six-mold disks, quadding and centering device, quick changes." See back cover. Facts and figures will be furnished gladly.

**7** FEEDER—On page 52. "For all type or slug-casting machines. Features worm-feed drive . . . No overflow . . . Non-slip." Send for details.

**8** SAW-TRIMMER—The C & G Saw Trimmer with angle gauge and see-through guard is featured by Milwaukee Saw Trimmer Corp. Investigate its features. See page 51.

**9** NUMBERING MACHINES—"Wetter Rotary Press Numbering Machines feature speed locking time . . . allow finer adjustment . . . insure better work." See page 48. Send for information.

**10** TYPESETTING MACHINE—"Linograph '50' has two-in-one distributor, many other features. Gives efficiency plus operation . . . no lag of matrices either entering or leaving magazines." See the advertisement on page 39.

**11** FORM FILE—"Saves extra handling is safe and fast. Electric-hydraulic power plant gives positive operation." See page 3. Write now for further details on this file.

**12** LINOTYPE EQUIPMENT — "Blue Streak Linotype gives printer means of keeping composition costs at a minimum." See inside front cover. Write for further details immediately.

**13** MOLD DISKS rebuilt. Magazines for Linotype machines. "New catalogue shows many parts and repairs on which the printer can save money." See page 31.

**14** TYPESETTING MACHINE — "The tie that binds . . . and also separates" is the heading of the Lanston Monotype Machine Company's advertisement on pages 24 and 25. Investigate Monotype.

**15** MATRIX CONTRAST SERVICE "guarantees to reduce errors in machine composition at least 25%. Saves time, fatigue and energy. . . . Promotes increased production." More detailed information will be sent. See page 12.

**16** SAWS—Hammond features three Glider Saws: Slug and Rule Model, All-Purpose Model and Larger All-Purpose Model. Send for the new circular. Page 47.

**17** PROOF PRESS—"The 325A Vandercook power proof press affords many economies that deserve the serious consideration of every newspaper production executive. Write for information." See advertisement on inside back cover.

### STEREOTYPE DEPARTMENT

**18** BOOKLET—on New Wood Heavy Duty Autoshaver. Write today. "Offers many new and vastly improved features which will aid the printer." See the advertisement on page 6.

**19** WOOD MATS—"Stereotypers prefer Wood Mats because they shrink more evenly, scorch quicker, and save recasting." See page 44. Sample lot sent on request.

**20** GUMMED PACKING FELT—Eastern Newspaper Supply's "Flecto." See page 51. Samples and further details if you wish.

**21** DRY MATS—Certified Dry Mats "will bring halftones out much nearer the clarity of original print." Investigate this means of getting dependable stereotyping. See page 43. For samples send specifications.

**22** STEREOTYPE EQUIPMENT — "Direct pressure used on Lake Erie Directomat gives positive pressure control . . . saves type." See page 49. Write.

# o-Date on Equipment Supplies

## ND MECHANICAL EXECUTIVES ONLY

**23** BURGESS CELLULOSE COMPANY—Manufacturers and distributors of Burgess Chrome and Tone-Tex Mats for Stereotyping. See page 47. Will send samples of their products. Write today.

### PRESSROOM

**24** ROLLERS—"Presswork improved and roller bills reduced through use of Vulcan Gelastic rollers. Give good service over remarkably long periods of time." Write for details. See page 49.

**25** CONTINUOUS FEEDER—"Results on test installations indicate that new Christensen continuous suction stream feeder is most important development in years in feeder design." Write today for full details. Page 10.

**26** PRESSES—Semi-Cylindrical, Unitubular, Tubular, High-Speed Flat-Bed, Stereo Machinery. Ask for information. See page 53.

**27** TYMPAN — "Low-priced, exceptional strength with hard even surface. Trial sheets; state size and press." See page 50.

**28** ROLLERS—Magazine and Newspaper Rollers made by Sam'l Bingham's Son Co. of natural and synthetic rubber compounds. Send for further information. Page 46.

**29** NEW PRESS "built along lines indicated by thousands of pressmen by ATF coming soon." Write today for new descriptive booklet. See page 23.

**30** COTTRELL MAGAZINE PRESSES "Will print and fold quality magazine pages at speeds up to 750 feet of web per minute." See page 21. Information will be sent gladly concerning the latest presses.

**31** NEWSPAPER INKS—Morrill states: "Volume and research by Morrill give printing quality. Morrill newspaper inks give trouble-free performance and real economy." Mail the card for further information. See page 9.

**32** SUPERGLOSS OFFSET INKS—Insert opposite page 26, was lithographed in Sinclair & Valentine Supergloss offset Colors under normal production methods. Maker advocates usual spraying methods and any special gloss paper.

**33** OFFSET PRESS—"Harris standardization brings this offset press into today's modern plant." New litho chemicals for deep etch and surface plate-making processes are also featured in the advertisement on page 11. Full details upon request.

**34** INKS—International Printing Ink discusses Everyday line of inks for automatic press printing; photographic reproductions, printed letterpress and gravure, labels printed with I.P.I. Glo-Ray inks, and official World's Fair colors. See page 44.

### MISCELLANEOUS

**35** BEARINGS—SKF Anti-friction Ball Bearings are used on all Jampol Conveyors in the Toronto *Globe* and *Mail* plant. See the advertisement on page 8, and write for further information.

**36** METAL QUALITY CONTROL—"Eliminate costly recasts and production losses by investigating Imperial's Plus Plan which controls metal quality by adding controlled amounts of tin and antimony for dross." See page 33.

**37** METAL CLEANING — "Tin-replacement cartridges keep tin percentage at uniform level. Metal refining compound reduces drossage losses twenty to forty percent." See page 50.

**38** CUT CEMENT—Zink Cut Cement featured as "most economical cut fastening means. Mounts cuts without deformation of cut or the printed result." See page 41.

**39** CUTTER—For Paper. . . . "Complete data on lever cutter which eliminates back-breaking effort . . . hair-line accuracy on multiples of one-twelfth and one-sixteenth graduations." Two sizes. See page 43.

**40** ZINC—"Zomo Zinc and A-Z Alloy offer quick, clean etching. Used with Backote, they require no asphalting." See page 41. Information sent gladly.

**41** VAPOR LAMP—"Gives penetrating light which speeds printing and composing and banishes errors." Investigate. Write today for more information. See page 19.

**42** ZINC—Edes Zinc "uniformly dependable at all times. Quick, clean-etching. Available instantly in any quantity." Write for samples and further information. See page 45.

**This coupon must be filled out completely in order to secure the literature or information you request. Circle only those bulletins you particularly want. This service is *only* for production and mechanical executives.**

**PRINTING EQUIPMENT ENGINEER** **January**

**Without obligation please have the manufacturers send me literature or information circled below. (These numbers correspond to numbers on descriptive paragraphs).**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
41 42

PRINT YOUR NAME AND ADDRESS

NAME.....TITLE.....DEPT.....

FIRM NAME.....

STREET CITY STATE

## Pre-Makeready

(*Continued from Page 15*)

over type height else the fine lines would sink too deep and the solids not deep enough into the matrix, when the matrix roller applied uniform pressure to all the area covered by its periphery. The fine line which had sunk too low in the matrix becomes a high line in the cast and the solid which was not rolled deep in the matrix does not stand up in the cast. Until this truth was realized all the improvements in mats, formers and scorchers, rolling and direct pressure, etc., and much testing of metal and its temperature for casting, improvements in cooling and shaving, etc., failed to produce satisfactory duplicates. The trouble really started in the form and until corrected there, a satisfactory mat is impossible. Without a good mat, what may reasonably be expected in a cast even with the best equipment and metal?

Of course, the corrective is now well known: To keep fine rules well under type height, 2 pt. face rule 0.917 in. and heavier rule type high in the form. Leaders should be less than type high (if you have the matrices) but substituting hyphens for leaders is a way around. All solids in the form should be supported with underlay before matrix making and this applies to very heavy rules and borders as well as solids of plates. By supporting solids and keeping fine lines under type height it is possible to make a satisfactory matrix and by utilizing the many improvements in duplicate plate-making machinery and the findings of metallurgical research very satisfactory duplicate plates, stereos as well as electros, are now produced.

(*To Be Continued*)

## Value of Color

(*Continued from Page 35*)

The masculine and feminine color preferences are also interesting. Can you tell me, without extra trouble, how it was determined?

I knew, of course, that the illustration was incorrect, but I wrote as I did because I feared his feelings might be hurt if I criticized the drawing too severely.

One of the officials of the manufacturing company replied as follows:

I am very glad to answer your questions about our folder on color in printing.

Just between you and me, I don't know whether the cover is correct or not. I secured these original plates from another company who had formerly used them, and was so glad to have the striking illustration available without cost that I did not hesitate to accept it without question.

The other material in this folder was boiled down from a book by a prominent scientist, who is the light expert for one of America's greatest electrical concerns and who has been generally accepted as authoritative by the graphic arts.

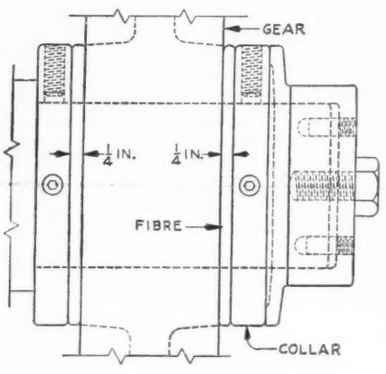
There are some other theories, one or two of them enlargements of his, but there seems to be little question but that he did a comprehensive and accurate job in establishing his thesis.

In view of the above, I am convinced that most readers will agree with me when I say that we still have considerable to learn about the actual money value of color in printing.

## Stereo Molding to Form Size

*By* E. L. BAILEY

A STEREOTYPE mold that does not lie flat to the form (one that is not free of all wrinkles) causes the man on the casting box unnecessary trouble unless the




stereotype equipment includes a pressure former or vacuum casting box.

We have tried several molding combinations with the leading mats on molding machines with a driven cylinder, free cylinder and a cylinder with a clutch. In experimenting, we found that the stretch of the mat could be controlled by pulling the key of the driven cylinder and driving a wooden wedge into the keyway. The idea is to put a little tension or drag on the cylinder. A free cylinder is very apt to cause the form to kick out when starting under the cylinder. By tightening or loosening the wooden wedge, the mat can be molded the same size as the form. If the molding is satisfactory, a clutch may be made for the molding machine from the accompanying drawing. However, I have not found this method as satisfactory on a cylinder of small deminsion as on a larger cylinder because the bite on a small cylinder is narrower and causes the mat to roll in.

In trying creepers with the different molding combinations, we found that a linen-resin-impregnated board (yellow in color), hard cork and an elastic creeper (a creeper that stretches only one way) will produce as near a perfect mold as is possible to obtain, provided of course, that the material in the form is of the proper height.

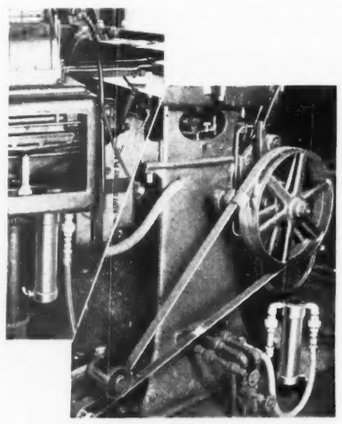
The elastic creeper is the secret of the molding combination. This creeper will not wear as long as rubber or fabric but will reduce forming and casting troubles. Stereotypers working with tubular equipment will find this combination to their liking, especially on pages with large solid areas.

### Patterson Makes Trip

Walter B. Patterson, Director of Agencies with the Mergenthaler Linotype Company, left New York January 2 for a nation-wide business trip. He will visit Linotype agencies in Chicago, San Francisco, Los Angeles and New Orleans, will attend meetings of several organizations and will confer with printers and publishers in many cities.

### Paasche Moisture Separators

Paasche Airbrush Company announces Type WOD Separator for preventing the accumulation of water, oil, rust, scale and dirt in air tanks and pipe lines used in connection with



the Monotype. Type WOD Separator, states the manufacturer, will keep the air system free of water and foreign matter which might interfere with the continuous operation of the recording parts of Monotype keyboard and casting machines. These Separators, it is said, will deliver only clean, dry air when drained and used as directed.

These Separators are connected to the air inlet of the machine. There are no mechanical adjustments. Separators are made of non-corrosive metal nickel plated. Automatic cleaning is provided when a petcock at the bottom of the Separator is opened.

# MACHINE REBUILDING AND MODERNIZATION

*There is still plenty of Service in that "old Linotype Machine"*

It can be put in *better* than original operating condition if full advantage is taken of our *rebuilding* and modernization plan.

Briefly, we rebuild in our own factory those expensive units which are worn; we supply many *improved* parts that make for smoother, more efficient operation and in addition reduces cost of up-keep; we furnish conventional "STAR" parts to replace those that are worn.

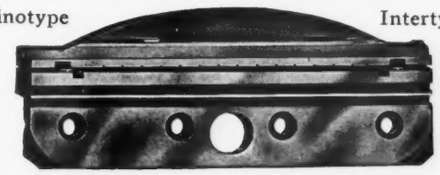
Only thru us can the fullest economy and efficiency be obtained in Linotype and Intertype machine rebuilding.

*Further details available on request.*

---

**DO YOU KNOW** that it takes about a year to finish a "Star" Mold? This is due to the fact that during the many operations involved in the manufacture of this part ample opportunity is allowed for "seasoning." This means less warping when put into service.

Linotype Intertype



TRADE ★ MARK

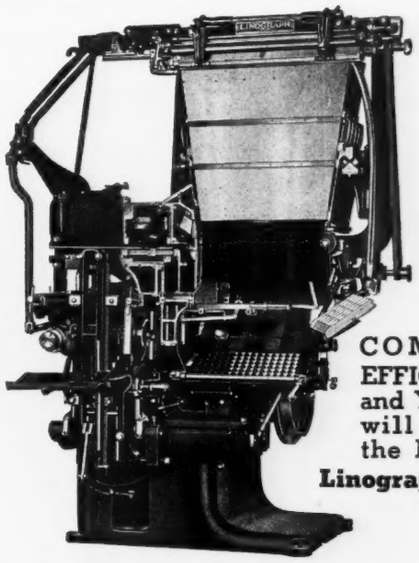
*Ace Cord-Rubber Belts (Endless) will outlast any others. For every place on the machine.*

**LINOTYPE PARTS COMPANY**

NEW YORK, N. Y. 203 Lafayette St.
KANSAS CITY, MO. 314 West 10th St.

Chicago 318 West Randolph St.
Minneapolis 503 Fourth Ave. South
Denver 1441 Blake St.



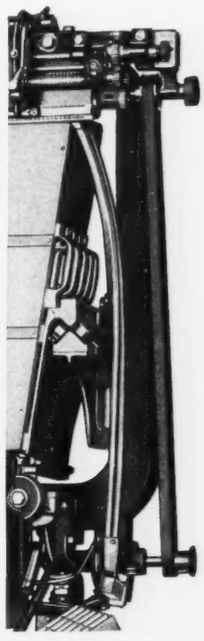


**COMPARE EFFICIENCY and You, too, will FAVOR the Modern Linograph "50"**

# FACTS versus PROPAGANDA

Any belief that matrices fall into the Linograph "50" magazine with unusual gravitational force is without foundation. Any well informed shop man KNOWS this. The mechanical explanation PROVES it.

The top of the magazine, for perfect distribution, is set forward one-eighth inch from center of distributor bar; the conventional lower screw mat guard is used to deflect mats forward against the beveled channel entrance, which naturally breaks the fall of the mat before dropping into the magazine. The ultimate result is that there probably is not as much impact upon the stationary mat in the channel as upon machines using inclined split magazines. It would be impossible to drop the mat straight from the bar into the magazine.



Many advantages arise from the fact that Linograph magazines are vertical instead of inclined. There is no "lag" of matrices either entering or leaving the magazine; this means lightning fast and more positive responses. The vertical magazines positively will not sag. Being vertical there will be no wearing of the matrix lugs or either magazine plate as is unavoidable in the case of inclined magazines.

There is as much difference between old and modern typesetting machines as between a Model T and present day autos.

*Write TODAY for Complete CATALOG*

**LINOGRAPH CORPORATION**
**450 W. Front St., Davenport, Iowa**

Gentlemen: Please send us your complete, illustrated Linograph "50" Catalog.

Name.....By.....
(Title)

City.....State.....

# Patents

## Recently Granted by U. S. Patent Office

### Composing Machines:

2,139,511. CRUCIBLE FOR SLUG CASTING MACHINES AND METHOD OF MAKING SAME. Clay E. Murray, Davenport, Iowa, assignor to Linograph Corporation, Davenport, Iowa, a corporation of Delaware. Application July 12, 1937, Serial No. 153,190. 2 Claims. (Cl. 29—148.2.)

2. In the art of making crucibles for type casting, those steps which comprise cutting a piece of steel tubing into the necessary form for a well, cutting a blank from a steel plate of a size and form to be shaped into a pot, shaping the pot, cutting strips of steel into shapes to be assembled and constitute a throat, assembling and welding the throat, cutting out a piece of sheet steel to constitute the bottom of the pot, assembling and welding the throat and well, assembling the pot bottom with the throat-well structure and welding them together, assembling the pot with the previously assembled structure and welding the parts together in leak-proof relation.

2,139,638. VISE FOR TYPOGRAPHICAL MACHINES. Allie Horace Kelley, Jr., Memphis, Tenn., assignor to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application December 13, 1937, Serial No. 179,523. 13 Claims. (Cl. 199—50.)

1. In a typographical machine having a matrix line confining jaw provided with means for adjusting it inwardly for lines of different lengths, and means for moving such jaw inwardly away from the adjusting means for quadding or centering lines, means for connecting the jaw to its adjusting means for movement outwardly therewith, the connecting means being releasable upon actuation of the jaw by the quadding and centering means.

### Feeding, Folding, Delivery:

2,137,978. CUTTING, FOLDING, AND STAPLING MECHANISM FOR USE WITH PRINTING MACHINES. Thomas Joseph Mills and Cecil George Quick, London, England, assignors to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application March 26, 1936, Serial No. 70,948. In Great Britain April 8, 1935. 17 Claims. (Cl. 270—37.)

1. In a mechanism to cut a plurality of sheets from a plurality of webs and staple them together, cutting cylinders each arranged to cut a determined number of webs into sheets, means to collect all of the sheets cut by the cutting cylinders, a stapling mechanism for stapling together the plurality of sheets collected, and a device operating to perforate at least some of the sheets in the stapling zone before the sheets are operated on by the stapling mechanism, and means to fold the sheets after they are stapled.

17. The method of forming a folded stapled product which consists in perforating at least some of the sheets, to be stapled in the zone at which a staple is to be inserted and thereafter inserting a staple through the perforation, then folding the stapled product lengths, and then flattening the folded over edge of the product.

### Patent Papers

*Printed copies of patents are furnished by the United States Patent Office at 10 cents each. Address the Commissioner of Patents, Washington, D. C., and enclose 10 cents for each patent paper wanted.*

2,138,054. FOLDING MECHANISM FOR PRINTING MACHINES. Adolph M. Zuckerman, New York, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application May 7, 1936, Serial No. 78,323. 15 Claims. (Cl. 270—47.)

1. In a folding mechanism, a first cylinder having provision for mounting a plurality of web cutting knives, a second cylinder having sheet collecting pin points each adapted to be made inoperative and arranged to correspond with the knives mounted on the first cylinder, each being adapted to remove sheets cut by the corresponding knife, mounted on the first cylinder, a sheet tucking blade adapted to be made inoperative on the second cylinder, and a third cylinder having a sheet gripping jaw adapted to be made inoperative for cooperation with the tucking blade when the latter is inoperative, and sheet transferring pin points corresponding to pin points on the second cylinder whereby sheets cut from the web by one of the cutting knives may be either collected by a pin point on the second cylinder, engaged and folded by cooperation of the tucking blade thereon and the jaw on the third cylinder, or cut from the web by others of the knives, collected by others of the pin points on the second cylinder, and transferred therefrom by the pin points on the third cylinder.

2,138,178. SHEET DELIVERY DEVICE FOR PRINTING MACHINES. Karl Theodor Lang, Coswig-Dresden, Germany, assignor to Dresden-Leipziger Schnellpressen-Fabrik-A. G., Ciswig, Germany. Application May 20, 1936, Serial No. 80,771. In Germany August 21, 1935. 2 Claims. (Cl. 271—74.)

1. A sheet delivery device for printing machines, comprising conveying means for the sheets, grippers on the conveying means for the sheets, grippers on the conveying means for catching the sheets, a turning drum carrying the conveying means, guiding members extending outside the circumference of the turning drum, blast nozzles on the surface of the drum and guiding members facing one another and means for producing drying air, the means being connected with the blast nozzles.

2,138,343. FEEDING MECHANISM FOR OFFSET PRINTING MACHINES. Paul H. Durup, Wollaston, Mass. assignor to Art-O-Graphic Printing Company, Inc., Boston, Mass., a corporation of Massachusetts. Application October 14, 1937, Serial No. 168,853. 8 Claims. (Cl. 271—12.)

1. In an offset printing machine a feeding mechanism for feeding envelopes, comprising in combination a frame, an endless carrier in the frame, holding means located on the frame, the holding means provided with adjustable shelf portions for holding two sides of an envelope stack, suction means pivotally mounted in the frame adapted to engage with the bottom unit in the stack by uniformly pulling an envelope away from the edges uniformly and releasing it upon the carrier member, roll means located in the frame in floating engagement with the carrier for advancing envelopes therealong, and being located in such manner that their peripheries fall directly and tangentially under the forward edges of envelopes in the stack.

2,138,405. MULTICOLOR SHEET FED ROTARY PRINTING MACHINE. William F. Huck, Richmond Hill, N. Y., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application June 8, 1935, Serial No. 25,589. Renewed March 28, 1938. 23 Claims. (Cl. 101—183.)

1. In combination with a sheet fed printing machine having an impression cylinder, a sheet feeder, and a delivery mechanism; a conveyor including a flexible carrying member and adapted to receive sheets from the feeder and convey them through the printing machine to the delivery mechanism, a plurality of gripper supports attached to the carrying member, and locking means for holding the gripper supports in position with reference to the impression cylinder to accurately register a sheet.

2,138,406. MECHANISM FOR CUTTING AND DELIVERING SHEETS FROM A WEB. William F. Huck, Richmond Hill, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 23, 1936, Serial No. 117,250. 24 Claims. (Cl. 164—68.)

9. In a mechanism for cutting and delivering sheets from a web of flexible material, a rotating cylinder having means thereon cooperating with means on another cylinder to cut a running web of material into sheets, a member carried by the rotating cylinder connected to an exhausting device and adapted to hold the leading end of the material to the surface of the cylinder by atmospheric pressure, the member being mounted for movement to raise the leading end from the surface of the cylinder, means to actuate the member in timed relation with the rotation of the cylinder, means to engage the leading end of the material as it is raised from the cylinder and strip it from the member, rotating means to move the end-engaging means past the point at which the holding means raises the said end, and means rotating with the rotating means to control the degree of pressure applied to the end by the end engaging member.

2,138,499. SHEET COLLECTING AND FOLDING MECHANISM FOR PRINTING PRESSES. Joseph E. Meyer, Westerly, R. I., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application September 14, 1937, Serial No. 163,717. 7 Claims. (Cl. 270—47.)

1. In a mechanism for cutting, collecting, folding and delivering the product of a single cycle of a change form cylinder rotary printing press into an even or an odd number of sheets or groups of sheets, rotary cutters, a collecting and folding cylinder coacting therewith to collect an even number of sheets or groups of sheets, a folding cylinder coacting with the collecting and folding cylinder, a collecting cylinder arranged to be brought into coaction with the collecting and folding cylinder, to collect an odd number of sheets or groups of sheets, and means for delivering the product.

# Technical Literature

### M-H Color Precision Motor-Focusing Camera

The Monotype-Huebner Overhead Motor-Focusing Color-Precision Camera, sizes 24 in. by 24 in. and 40 in. by 40 in., illustrated and described in folder. Will be sent to those who may write giving name of the firm with which they are associated. *P-Double-E File Nos. 2B, 2D and 2E.*

### Bold Face Device and Router

Montgomery & Bacon have published a circular illustrating a device for application to Linotypes to prevent the operator sending over mixed position or auxiliary position matrix lines as long as the two-letter attachment (flopper) is in active position. Portable Router for usual routing work, including linoleum, described.

### Meaning or RLM Label

*The Meaning of the RLM Label on Industrial Lighting Equipment* is the title of a booklet published by RLM Standards Institute (Reflector and Lighting Equipment Manufacturers) in which are set forth the meaning, purpose and value of the RLM label in the specification and purchase of lighting equipment.

Included are complete specifications for the four types of lighting reflectors for which RLM Standards have been established. *P-Double-E File No. 1GG.*

### Paasche Separators

Leaflet illustrates and describes Type WOD Separator for attachment to air inlet of Monotype keyboard and casting machines for preventing accumulation of water, rust, oil, scale and dirt in the air system and air operated parts of the machines. *P-Double-E File No. 1G.*

### Johnson Color Chart

Booklet shows solid and screened color swatches of inks manufactured by Charles Eneu Johnson & Co. Three shades of related colors on each sheet. *P-Double-E File Nos. 2D12 and 5W.*

### Goss Unitube Press

Folder with illustrations states "Goss Unitube Press" solves production problems for medium-sized newspapers." Mechanical features illustrated and explained. *P-Double-E File No. 5LL25.*

### Metro and Metro No. 2

Specimen showing of all sizes and weights of Metro and Metro No. 2 has been published by Mergenthaler Linotype Company for inclusion in company's specimen book. *P-Double-E File No. 1G.*

### Fully Enclosed Press Units

Illustrated folder describes Goss high-speed anti-friction newspaper press units which are designed to totally eliminate ink misting. *P-Double-E File No. 5LL25.*

### Heinrich Precision Vulcanizers

Two folders, illustrated, one by metal plates and one by rubber plates, describe Heinrich Precision Electro-Hydraulic Vulcanizers—24 in by 24 in. and 18 in. by 18 in. respectively. The folder printed from rubber plates demonstrates what can be done with halftone screens on crash stock in one color and black ink, registered. *P-Double-E File No. 2F.*

### No. 2 C & G Saw-Trimmer

Bulletin illustrates and describes in detail the No. 2 C&G Saw-Trimmer made by Milwaukee Saw-Trimmer Corporation. *P-Double-E File No. 1Z.*

*Manufacturers and suppliers whose literature is described will be glad to send copies to our readers. Just send word to* Printing Equipment Engineer.

RESOLVED -
To start 1939 with a clean sheet and a clean shop by using...
Zomo Electric Zinc or A-Z Alloy plates with
BACKOTE
They require no asphalting.
YEAH - I THINK THAT'S HARD TO BEAT
THAT'S A PRETTY SMOOTH RESOLUTION

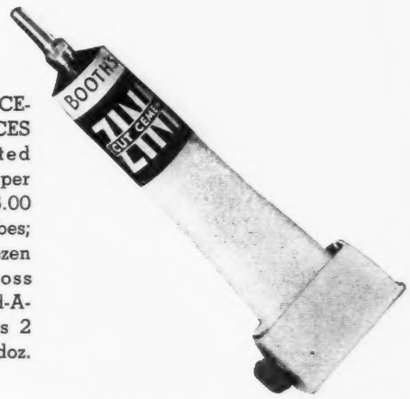
YOU can order A-Z Alloy and Zomo Electric Zinc, plain or Backoted, from leading metal suppliers in the United States, Canada and England.

**ZOMO ELECTRIC ZINC**
**A-Z ELECTRIC ALLOY**

*We Repeat—*

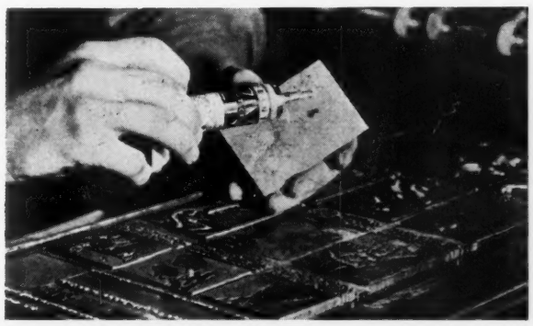
## Maintain Printing Levels

Booth's Zink Cut Cement lends itself to the mounting of cuts so as to maintain true printing levels without deformation of the cut or the printed result. This cement will fasten zinc etchings, copper halftones, electros, stereo shell casts and plastic cuts to wood or metal base. Holds with the grip of a tiger's paw.




ZINK CUT CEMENT PRICES in the United States: 75c per large tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots. Stand-A-Lone Holders 2 for 25c, per doz. $1.00

Use it sparingly for greater efficiency in holding the cut to the base. Most economical cut fastening means in existence.



**Sole Canadian Distributors for Booth Products:**
**Sears, Ltd.**
**Toronto Montreal Winnipeg Vancouver**

**E. A. BOOTH**
**RUBBER COMPANY**
364 ROCKEFELLER BUILDING · CLEVELAND, OHIO

### Intertype Matrix Combinations

Intertype's stock of two-letter faces, according to A. T. Mann, Jr., Vice President in Charge of Sales, is being increased by the addition of many new faces and new combinations of existing faces. One of the latest combinations is Gothic No. 13 duplexed with Cairo Bold Condensed, as shown here in the

THIS PARAGRAPH is set in 8 point Intertype Rex **with Bold** $1234567890

*8 pt. Rex with Bold*

ABCDEFGHIJKLM $123
**ABCDEFGHIJKLM $123**

*Gothic No. 32 with B. F. No. 9*

**ABCDE abcdefghij 123**
**ABCDE abcdefghij 123**

*Gothic No. 13 with Cairo Bold Cond.*

18 point size. This makes three weights of Cairo Bold Condensed available for headletter and advertising composition. Also shown is the 8 point size of Rex, Intertype's new text face, and 12 point Gothic No. 32 with Bold Face No. 9.

A booklet showing nearly one hundred different combinations is ready for distribution to newspaper publishers and superintendents upon request. *P-Double-E File No. 1G5.*

*Wm. A. Anderson, Pressroom Foreman at the Merchants Publishing Company, Kalamazoo, Mich., looks over the new bulletin,* Ten Ways to Avoid Offset, *just published by the E. J. Kelly Company. The bulletin has been compiled from its service call reports. A copy will be sent to any* Printing EQUIPMENT Engineer *reader gratis. Just address your request to the E. J. Kelly Company, 1807-19 N. Pitcher Street, Kalamazoo, Mich., on your company letterhead.*

### Appenzellar New Intertype Chairman

The Board of Directors of Intertype Corporation announce the election of a new Chairman of the Board and three new members. Paul Appenzellar is chairman and the new members are Norvin H. Green, Hon. Edward F. McGrady, and David L. Tilly.

Mr. Appenzellar has been closely identified with the affairs of Intertype Corporation, as a stockholder and advisor, since the organization of the company in 1916. He has been a member of the board for about fifteen years. He is also chairman of the board of the Dictaphone Corporation.

Mr. Green succeeds his uncle, the late Erskine Hewitt. He is a member of the board of several other business corporations.

Hon. Edward F. McGrady was First Assistant Secretary of Labor of the U. S. from 1933 to 1937, when he resigned to join Radio Corporation of America, of which he is a director and vice president. He is also a director of the National Broadcasting Company. He began as a newspaper pressman in 1894, and came into national prominence as president of the Newspaper Printing Pressmen's Union.

Mr. Tilly is president of the New York Dock Company and is a member of the board of several business corporations.

### Brandtjen & Kluge Sales Changes

C. D. (Charley) Lackore has recently been appointed Sales Manager of Brandtjen & Kluge, Inc. Mr. Lackore joined the Brandtjen & Kluge ogranization as a salesman in 1934 and in 1935 was made manager of the Chicago branch. In his present position Mr. Lackore has charge of all domestic sales. He is now making a tour of inspection of the eastern branches.

A. E. Bradley, who has been associated with Brandtjen & Kluge, Inc., since 1932, has been appointed Western Sales Manager.

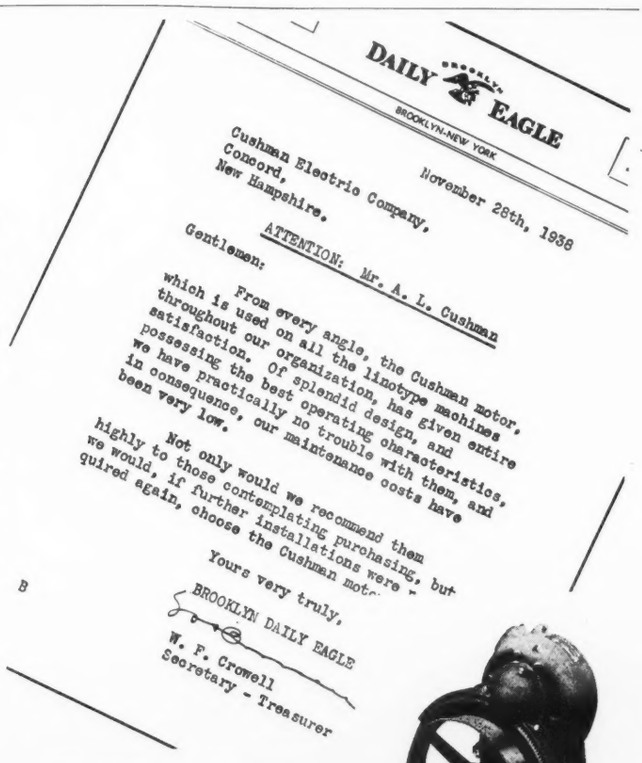
George S. Withy is in charge of Brandtjen & Kluge, Inc., foreign sales. The Canadian sales of Brandtjen & Kluge, Inc., are handled through Sears Limited.


# "We Recommend Them Highly"

The *Brooklyn Daily Eagle* says of Cushman Motors, "Not only would we recommend them highly to those contemplating purchase, but we would choose them if further installations were required in our plant."

This company is entirely satisfied with Cushman Motors. You too can enjoy their trouble-free operation—and the reduced maintenance and production costs which they make possible.

Write today for further information. Or, better still, send for a trial Cushman Offset Motor.


DAILY EAGLE
BROOKLYN-NEW YORK

November 28th, 1938

Cushman Electric Company,
Concord,
New Hampshire.

ATTENTION: Mr. A. L. Cushman

Gentlemen:

From every angle, the Cushman motor, which is used on all the linotype machines throughout our organization, has given entire satisfaction. Of splendid design, and possessing the best operating characteristics, we have practically no trouble with them, and in consequence, our maintenance costs have been very low.

Not only would we recommend them highly to those contemplating purchasing, but we would, if further installations were required again, choose the Cushman motors.

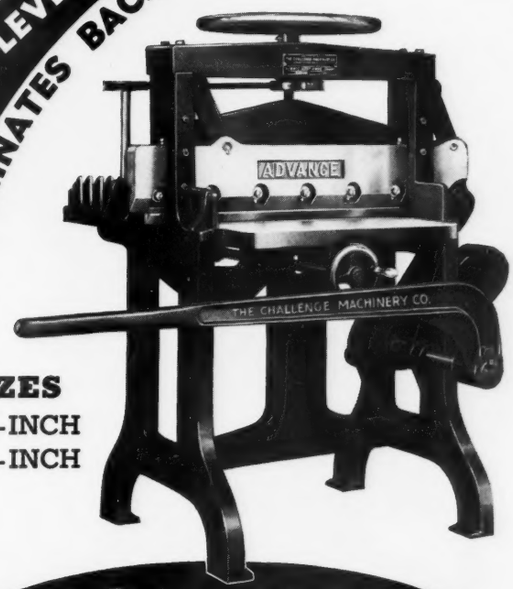
Yours very truly,

BROOKLYN DAILY EAGLE

W. F. Crowell
Secretary - Treasurer

**CUSHMAN ELECTRIC CO.**
**69 South Main Street** **Concord, N. H.**
**Western Agents: Shaw Machine & Tool Co., 1151 Temple St., Los Angeles, Calif.**

POWERFUL LEVERAGE ELIMINATES BACK BREAKING EFFORT




**SIZES**
26½-INCH
30½-INCH

**ADVANCE LEVER PAPER CUTTER**

● You don't wrestle and struggle with an Advance Paper Cutter . . . don't stoop or strain. The convenient, long, counter-balanced lever multiplies pressure applied and develops tremendous cutting power.

The Advance Lever Paper Cutter is a fast worker . . . makes a lot of haste without waste, functions with absolute precision. A marvelous time, energy and money saver. Safer, too.

The Advance Lever Paper Cutter combines economy with endurance. The sturdy side frames, massive arch, and heavy center support provide utmost rigidity under heavy cutting. Hair line accuracy on multiples of one-twelfth and one-sixteenth graduations is assured by the improved Duplex measuring tape and interlocking back-gage. Write for complete data. 300

**THE CHALLENGE MACHINERY CO.**
GRAND HAVEN, MICHIGAN
CHICAGO, 17-19 E. Hubbard Street
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Agents for Great Britain — Funditor Limited, London, E. C. 1

***"I'm Getting Soft," Complained the Camera Man.***

**"Nobody has swung on me for more than a month. Everybody acts as though he liked to have his picture taken. I got nine poses at that society wedding where the society editor told me I wouldn't be able to get in."**

**"For one thing, we are getting decent production with these Certified Mats. Funny how a better looking paper breeds better feeling all around."**

*For dependable stereotyping, rely on Certified Mats, made in the U. S. A.*

**CERTIFIED DRY MAT CORPORATION**
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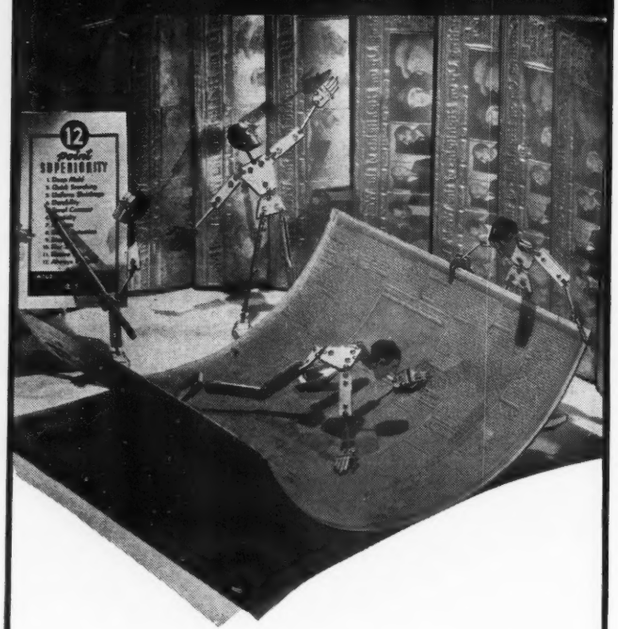
DRY MATS

# WOOD MATS

. . . save re-casting and that's . . .

# WORTH MONEY



**Money isn't the only consideration either — for stereotypers everywhere have shown a marked preference for Wood Mats because they mold easier, scorch quicker and shrink more evenly.**

**Prove the advantages of Wood Mats by trying a sample lot. We'll gladly send it on request.**

WOOD DRY MATS
ALWAYS UNIFORM

**WOOD FLONG CORPORATION**
HOOSICK FALLS, NEW YORK

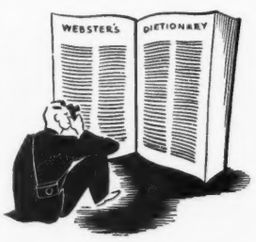


# Keeping in Touch

**PLACE IN THE SUN**—About the only thing sun-kissed oranges have on our inks is that you can eat the oranges. Down in Miami there is a special laboratory to test colors for light fastness. The healthy rays of the Florida sun (courtesy: Miami Chamber of Commerce) play all over ink samples we send down to them—for certain results, actual sun testing is necessary. While they are being checked for permanence, these sun-tested inks bask for days—even months—under the warm Miami skies. At about this time of year, do we envy them!

**SUGGESTION**—Ask your IPI salesman to tell you about the new colors in the Everyday line. They are made specially for automatic press printing.

**PIX**—If a picture is worth ten thousand words, the new U. S. CAMERA is practically the equivalent of a public library. U. S. CAMERA 1939 contains hundreds of the best photographs taken during the last 12 months by amateurs and professionals. Some of the pictures are so good they ought to be worth 50,000 words. But the book is not only an example of the finest in modern photography. It exemplifies the best in modern printing and modern reproduction. The Beck Engraving Company did the job, four-color process and black and white (letterpress and gravure). And we must blushingly confess that IPI inks were used throughout.




**PROOF POSITIVE**—Not long ago, we saw some labels printed in the new IPI Glo-Ray inks, which indicated that these gloss inks MUST be satisfactory substitutes for more expensive overprint varnish. The labels had been printed to be used on cans of varnish!

**HAVE ONE?** Do you intend to do any New York World's Fair printing? If you do, you'll want to use the official Fair colors—orange and blue. IPI has matched these colors in inks, and they have been approved by the Fair color experts. Samples proved on seven popular paper stocks have been bound up in an attractive brochure, just off the press. To get your free copy, just write and ask for it. "Keep in touch with IPI."

**INTERNATIONAL PRINTING INK**
DIVISION OF INTERCHEMICAL CORPORATION
**DEPT. P.E.J., 75 VARICK STREET, NEW YORK, N. Y.**

ipi

# Shea, Beacom, Fitzgerald, Nickerson Have New Executive Duties

EFFECTIVE the first of the year, John J. Shea joined the Hearst general management in a production capacity with headquarters in New York. Mr. Shea has been identified with the Worcester (Mass.) *Telegram* and *Gazette* for many years. For the past six years he has been production manager of the Worcester papers. His experience has been active in the mailing and pressroom departments. In 1929 he was made pressroom superintendent and in 1932 he was advanced to production manager.

BEACOM RETURNS TO HEARST

Timothy J. Beacom, formerly Hearst papers mechanical superintendent, has rejoined the organization, according to an announcement of General Manager J. V. Connolly. His duties will be with the general management staff. In 1935 Mr. Beacom left to become associated with King Features. Since 1937 he has been engaged in newspaper engineering work.

Both men have been associated actively in the Mechanical Department of the A.N.P.A.

SUCCEEDS SHEA

Succeeding John J. Shea, former production manager of the Worcester (Mass.) *Telegram* and *Gazette*, Richard M. Fitzgerald has been named mechanical superintendent of both papers.

POSITION CREATED FOR NICKERSON

Appointed to supervise operations in the composing, stereotype and press departments, William Nickerson is now mechanical superintendent of the Boston *Evening Transcript*. Mr. Nickerson formerly was composing room foreman. Formerly all three of the mechanical departments reported separately to the publisher.

---

### Sixteen-Hour Production Schedule

Officials of the Linograph Corporation, Davenport, Iowa, announce that the company is entering 1939 on a production schedule calling for two eight hour shifts. This production level, however, had been in force for several weeks previous to January 1.

### Correction

In the 1939 Equipment and Supplies Reference Number of *Printing* EQUIPMENT *Engineer*, The B. F. Goodrich Company, Akron, Ohio, is listed as being the source of supply for rubber printing plate vulcanizer. This is an error. We are informed by The B. F. Goodrich Company that the firm is interested only in the manufacture and sale of rubber printing plate materials. Please make this correction in your copy of the index, Pages 88 and 111.

On page 97 of the Composing Room Index, Precision Typesetting Parts, 368 East 148th St., Bronx, New York, should have been listed under 1G8 Composing Machine Supplies as manufacturers of springs, hair spaces, felt mold and mouthpiece wipers, rubber rolls, cord belts and belting. Precision Typesetting Parts also should have been listed under 1N3 Matrix Gauge for repairing matrices.

Please make corrections in your Index.

---

### Ludlow DeLuxe Variants

Ludlow Deluxe Variants, a new set of twenty rounded capitals and lower-case letters, which may be substituted for the regular characters in Ludlow Medium Condensed Gothic, provide the equivalent of a new and modernized font. The effect of the Medium Condensed Gothic, when these rounded characters are used, is different.

This development will be of particular interest to Ludlow users having Medium Condensed Gothic. With substitution as occasion warrants of the Deluxe Variants, this face will prove effective in advertising display and commercial printing.

Deluxe Variants for the letters A C E F G K L M N R S T V W X Y v w x y in sizes from 12 to 48 point are available in sets, as sorts, or substituted for the regular characters in fonts of Medium Condensed Gothic. Specimen lines showing this substitution in the 24 point size are shown here.

**EXPECT NEW EFFECTS WITH the Ludlow Deluxe Variants**

**OLD CAMPAIGNER**

In many a big campaign and run of hot news, Edes Zinc has taken every event in stride in the busy engraving department. It has the three big points that mean the difference between peace and panic—it is quick-, clean-etching—it is completely uniform—it is available instantly in any quantity.

**USE EDES HARD MATRIX ZINC FOR MATRIX WORK**

**EDES ZINC**

EDES SUPERFINE QUALITY ZINC

**The EDES Manufacturing Company, Plymouth, Mass. U. S. A.**

*Headquarters for Superior Brand Copper and Plymouth Brand Brass*

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NEW ORLEANS, LA.—Chemco Photoproducts Co., Queen and Crescent Building.
BOSTON—Allan B. Croke Co., 163 Oliver Street.
CINCINNATI—G. C. Dom Supply Co., 125 East Pearl Street.
ST. LOUIS—Mid-West Photo-Engravers Supply Co., 514 North Third St.
WASHINGTON, D. C.—E. H. Walker Supply Co., 1315 14th St., N.W.
SAN FRANCISCO—Selby Mohr, 883 Mission Street.
AKRON—Metzger Photo Supply Co., 1091 South Main Street.
BUFFALO, N. Y.—C. S. Illingworth, 49 Springville Avenue.
MINNEAPOLIS—Thompson-Hayward Chemical Co., 909 2nd St. So.
DENVER—Thompson-Hayward Chemical Co., 2228 Blake Street.

# Lighting

(*Continued from Page 28*)

WATER COOLED MERCURY LAMP

"The most recent development in the field of mercury lamps is the 1000-watt Type H-6 water-cooled lamp. This efficient lamp (65 lumens per watt) is a quartz capillary tube about three inches long containing a small amount of mercury and fitted at each end with a brass ferrule for electrical contact. The arc stream itself is less than an inch long and scarcely larger in diameter than a common pin. Surpassing in brilliancy most known illuminants, the arc attains a brightness of the order of 30,000 candles per square centimeter. The light emitted has the characteristic yellow-green and blue-violet radiation of the mercury spectrum and in addition a greater percentage of red radiation than other mercury sources. Normally the lamp operates at about 840 volts and 1.4 amperes.

"Heat from the arc would melt the quartz tube in short order if some effective method of removing the heat were not employed. Cooling is effected by means of a rapidly moving stream of water (at least 3 quarts per minute) which surrounds the arc tube and is conducted through a glass water jacket in which the lamp is operated. It is recommended that a pressure-operated switch and a magnetic valve be inserted in the water line and connected in such a way that the water must be in motion before the lamp is switched on.

"Since it is rich in blue, violet, and near-ultraviolet radiation, the mercury lamp promises to make an important place for itself in the fields of photo-engraving and blueprinting. For the former service it has the advantage of requiring but a fraction of the wattage needed in carbon arcs. It is more convenient because of the smaller bulb, and it produces superior work because of the steadiness of the arc. Thus it becomes possible to make clean-cut engravings of poster size. For blueprinting, the lamp makes possible greater printing speeds, more compact equipment, and in some cases lower wattages."

## Pierson Now President

Announcement has been made of the election of J. Ogden Pierson as president of Dameron-Pierson Company, Ltd., in New Orleans, to succeed the late Frank Dameron. James B. Eaton, secretary in charge of manufacturing departments, becomes vice president, and Charles N. Wurstesen, auditor, is now secretary-treasurer of the company.

## Type D Enclosed Switch

A front-operated Type D enclosed switch is a new development of Cutler-Hammer, Inc.

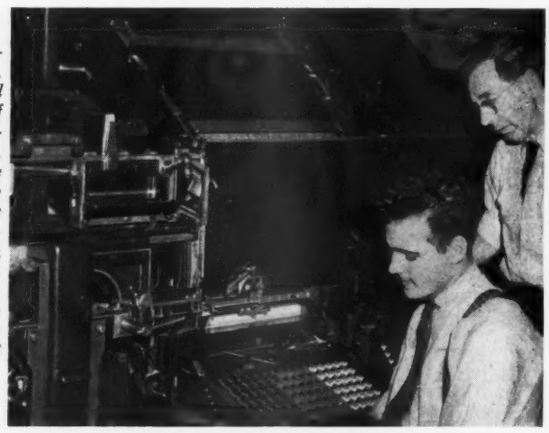
Rated at 30 amp., the complete line consists of devices for 2 and 3-wire solid neutral service, and 2-pole, 250 v. switches, available with and without dead-front plates.

The switching mechanism of this line is operated on the "push-pull" principle by a bakelite handle. The case is 7½ in. high, 5 in. wide and 2¾ in. deep.

Other features are solderless connectors on the line side, "easytite" wire holes on the terminal side and numerous knockouts. Bakelite dead-front plate is removed by lifting out with fingers.

The "D"-Puller case is finished with rust-resisting aluminum and also provides a ground connection.

*P-Double-E File No. 5CC.*



*Eric Ridder (at left in accompanying picture), son of Joseph E. Ridder the publisher, graduated recently from the Intertype School of Instruction at Brooklyn under tutelage of Professor Maxwell (right). As a final test of his skill in the mechanics of the Intertype, he ordered all of the various parts that go into a machine, and them completely assembled a Four-Deck Streamlined Model G Intertype with four-magazine side unit. Mr. Ridder is learning the mechanics of the publishing business, which includes presswork, stereotyping and photoengraving.*


FOR THE PAST TEN YEARS

*we have been making*

NEWSPAPER AND MAGAZINE ROLLERS

*of*

NATURAL *and* SYNTHETIC RUBBER COMPOUNDS

*as well as the*

VARIOUS COMPOSITIONS

We have ALWAYS led the field of the Composition Newspaper and Magazine Roller; NOW we are continuing that lead with Rubber.

And, like our product, our price commands respect.

SAM'L BINGHAM'S SON MFG. CO.

CHICAGO

ATLANTA CLEVELAND NASHVILLE DES MOINES DETROIT
DALLAS HOUSTON INDIANAPOLIS KALAMAZOO KANSAS CITY
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BURGESS CHROME MATS

★

# Greetings

At this season our thoughts naturally revert gratefully to those whose goodwill and patronage have made possible our continued success.

We want you to know we appreciate serving you and extend our heartiest wishes for a really Happy and Prosperous New Year.

★

## Burgess Cellulose Co.

Manufacturers and Distributors
Burgess Chrome and Tone-Tex Mats

Freeport, Illinois

Pacific Coast Representative, RALPH LEBER,
426 Polson Bldg., Seattle, Washington

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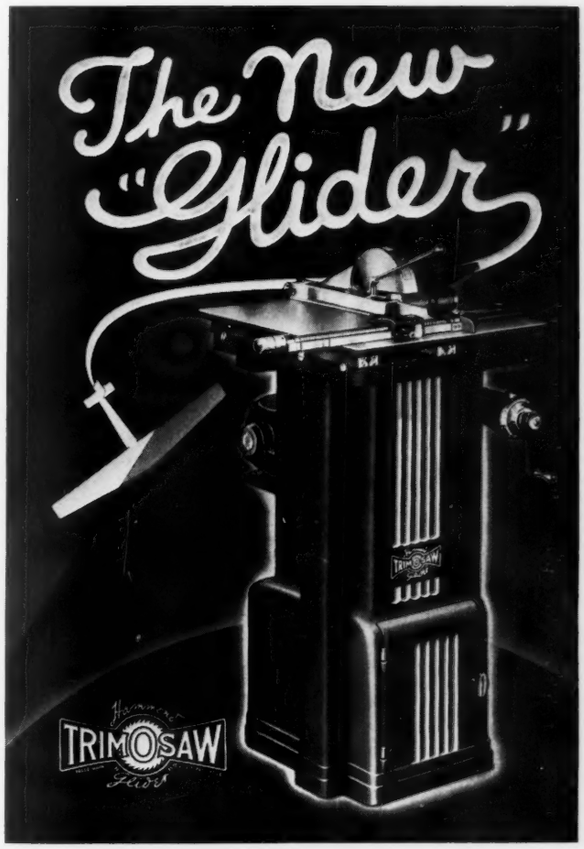
BURGESS CHROME MATS

BURGESS CHROME MATS

BURGESS CHROME MATS

*Successor to Saws*




Hammond offers 3 Gliders—a model for every plant:

**MODEL G-22**

Slug and Rule Model. The ideal machine for the production plant requiring more than one composing room saw.

**MODEL G-2**

All-Purpose Model. Identical in size to Model G-22—plus a point system raising and lowering saw arbor, making it suitable not only for the sawing and trimming of slug, rule and border, but also for squaring, sawing and mortising of type-high and shell plates.

**MODEL G-3**

Larger All-Purpose Model—as shown by above cut.

*New All Glider circular, list of nearby users, and other facts proving the Glider to be the "Successor to Saws" is yours for the asking.*

Hammond Machinery Builders
NEW YORK KALAMAZOO, MICHIGAN CHICAGO

1604 DOUGLAS AVENUE

# Espouses Two-Hand Cutter Starting Device

James L. Gernon, Director of the Division of Inspection of the New York State Department of Labor stated recently "When a 'safety device' permits a boss printer of more than 30 year's experience to amputate a hand above the wrist while operating a paper cutter, it is no safety device even though the New York State Industrial Code may say it is and it may bear official stamp of approval." Citing this instance which recently came to his attention, Mr. Gernon has written to New York employers' associations to discourage the use of the one-hand starting device which requires two distinct movements of the device to start the cutting motion of power-operated paper cutters.

In February 1936, the Industrial Code rule governing power-driven paper cutters was amended to approve the one-hand device. Previously, the Labor Department had required a starting device which necessitated the use of both hands to start the cutting motion. The amendment was granted as a concession to certain owners of power paper cutters who claimed that it was not possible to do certain work on a power cutter equipped with a two-hand starting device

Mr. Gernon points out the fallacy of this contention saying that "to the credit of most of the owners of power paper cutters they will not take a chance with a one-hand starting device and in most instances they prefer the two-hand starting device, realizing it affords better protection to the operator."

In his letters to the employing printers Mr. Gernon said:

> Our objection to that part of the rules which permit what is termed a one-hand, two-motion starting device is founded on the accident experience on cutters which were equipped with this type of starting device because it permits the operator to have a free hand while the machines perform the cutting operation, and we claim that it is on the cutting machines with a one-hand starting device where injuries will occur, even where the cutter is provided with an approved safety stop.
>
> Permit me to inform you of a power paper cutter injury which recently occurred on a 44 in. cutter. Our investigation showed the cutting machine to be in perfect mechanical maintenance and equipped with a built-in approved safety stop with a Department of Labor approval plate No. 2131 attached to the machine. This paper cutter was also equipped with an approved starting device with a Department of Labor approval plate No. 2172 attached to the machine (starting device was one-hand, two-motion as permitted by Paragraph 2-B of Rule 926).
>
> The president of the corporation owning the cutter is 62 years of age, has had over 30 years experience at operating a power paper cutter and while operating the cutter his left hand was amputated above the wrist.
>
> It is our belief that this injury resulted from the use of a one-hand starting device leaving the left hand free to contact the descending knife of the cutter.
>
> My purpose in writing you this letter is to enlist your aid in preventing industrial injuries in the printing industry . . . Knowledge of this industrial injury may result in causing the installation of two-hand devices which will eliminate the possibility of the operator having a free hand . . . the one-hand, two-motion starting device regardless of its two motions is nothing more than a one-hand starting device.

### C-H Promotions

The promotions of E. W. Seeger to Chief Engineer and P. B. Harwood to Assistant Chief Engineer are announced by W. C. Stevens, Vice President in Charge of Engineering, Cutler-Hammer, Inc. Prior to their advancements, Mr. Seeger was Assistant Chief Engineer and Mr. Harwood General Engineering Supervisor.

## Gravure

*(Continued from Page 18)*

has a constant torque characteristic and delivers horsepower directly in proportion to the speed, as indicated by Curve "C," it would require an 87 h.p. motor to satisfy the 42 h.p. load conditions at the speed corresponding to a 33 in. cylinder. However, if the production requirements only call for a 22 in. and 33 in. cylinder, then the drive should be connected to the press so that the maximum motor speed would provide a web speed of 600 ft. per min. when using a 22 in. cylinder. In this case, a 60 h.p. motor would be sufficient.

The operating characteristics could be further improved and operating costs lowered by the use of a two-speed gear unit, which will permit the main motor to run at its top speed and maximum efficiency for either the 22 in. or 33 in. cylinder. A 50 h.p. main motor would meet the requirements.

A press may be required to run at speeds less than the maximum geared speed for a number of reasons. As previously stated, the maximum geared speed is determined by


FOR 1939

*The Dry Mat Molding Combination Deluxe*

A. P. S.

SUPERIOR "A"
or METROPOLITAN "B"
**CORK MOLDING BLANKET**

with

**A. P. S. SLIP BOARDS**

•

COMPLETE INFORMATION ON REQUEST

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**American Publishers Supply**

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**ON ROTARY PRESSES TOO,**

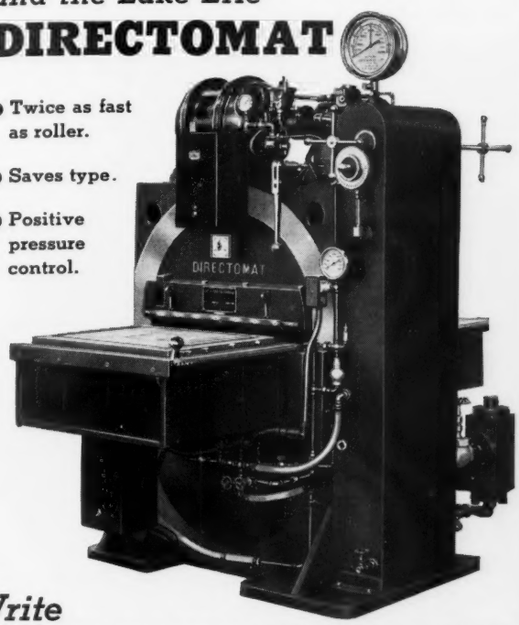
*Number better with a* WETTER

• Save press time with WETTER Rotary Numbering Machines. WETTER features speed locking time and allow finer adjustment. WETTER interchangeability for right angle or parallel operation reduces necessary investment. WETTER accurately turned figures for all size cylinders insure better work.

Tell us your problem and we will show you how to save money and number better with a WETTER.

**WETTER NUMBERING MACHINE CO.**
ATLANTIC AVENUE & LOGAN STREET, BROOKLYN, N. Y.

*The Trend Is to*
**DIRECT PRESSURE**
*and the Lake Erie*
**DIRECTOMAT**




- Twice as fast as roller.
- Saves type.
- Positive pressure control.

*Write*
**LAKE ERIE STEREOTYPE EQUIPMENT CORP.**
68D Kenmore Station BUFFALO, N. Y.

*Technical Books*

ETCH PROOFS
*By* J. H. Bartz

Booklet, approx. 6 in. by 9 in., 40 pages and paper cover. Tells reasons for and how to take reproduction proofs. Price, $2.00, cash with order.

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General collection of technical articles related to all phases of printing, newspaper production and publishing. Supplies answers to 17,760 production problems. Price, $5.00, cash with order.

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Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts. $3.00 per copy, cash with order.

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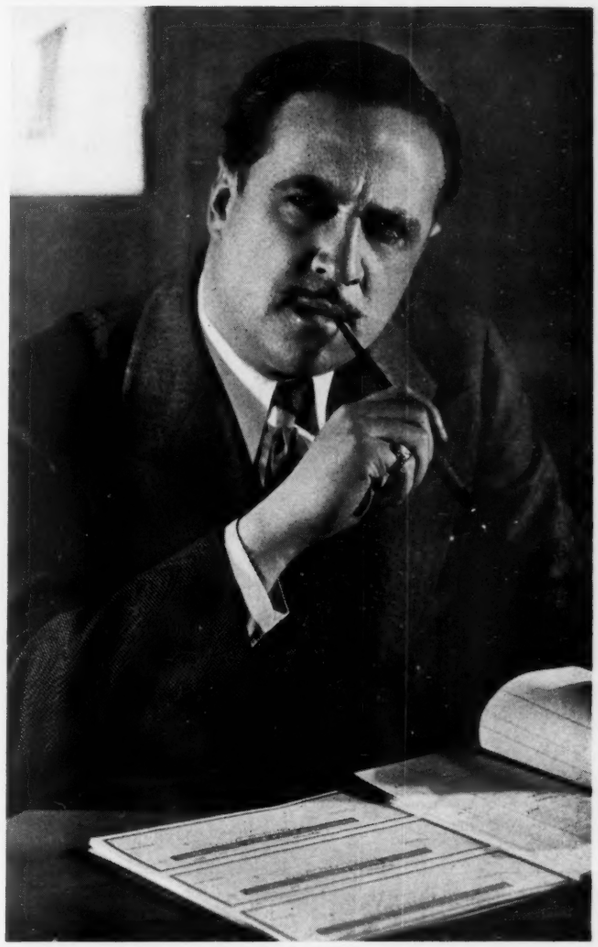


**"Can't we CUT DOWN on these roller bills?"**

YES . . . roller bills *can* be reduced—and with a definite improvement in presswork—through the use of VULCAN GELASTIC ROLLERS. Being unaffected by heat and cold—impervious to oils, driers, and washes—and free from swelling, shrinking, chipping, and cracking—Gelastic Rollers give good service for remarkably long periods of time. They effect even greater savings, too, by forestalling costly press delays. Write for details.

**VULCAN PROOFING COMPANY**
FIRST AVENUE and 58th STREET, BROOKLYN, N.Y.
*SALES REPRESENTATIVES IN PRINCIPAL CITIES*

*Vulcan Gelastic Rollers*

CLIP THIS AD
FOR FREE TRIAL SHEETS STATE PRESS AND SIZE WANTED

RIEGEL'S CERTIFINE TYMPAN

A low-priced tympan with a hard even surface and exceptional strength. Ideal for short-run job work. Nationally stocked in roll widths for every press.

RIEGEL PAPER CORPORATION 342 MADISON AVENUE NEW YORK, N. Y.

the smallest size cylinder and the press will therefore run at lower speeds as the size of the cylinders are increased. Furthermore, it may be advisable to reduce the press speed because of the condition of the ink, cylinders, paper, or register. With a slip-ring (wound-rotor) motor, the speed is reduced by inserting resistance in the rotor circuit. Power is dissipated in this resistance in the form of heat and results in losses inversely proportioned to the speed. Therefore, an a.c. wound-rotor motor operates at its highest efficiency only at its top speed.

A press operating at a reduced speed continually 24 hours a day, week after week, can accumulate a considerable power loss charge. For this reason, publishers have considered the use of two speed and even three speed gear units with the double motor drive, which will give them two or three speeds at which the motor is operating at its top speed and its maximum efficiency.

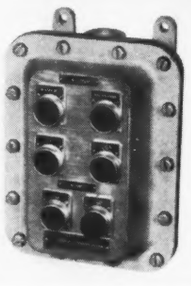


*Fig. 5—Six-button explosion-proof push button station for cylinder raising and ink pump control.*

Fig. 2 shows a typical a.c. wound-rotor double motor drive used on small gravure presses. Fig. 3 shows a large a.c. wound-rotor double motor drive with a two-speed gear unit.

If the speed requirements call for the equivalent of a three-speed gear unit, a polyphase brush shift type of double motor drive, as shown in Fig. 4, should be considered. This has a relatively high efficiency over its entire speed range and has a low operating cost. It is the most refined type of drive obtainable under present day practice, but it may not prove to be the most economical drive if the standard wound-rotor double motor drive will meet the requirements. The advantages of the polyphase brush shift motor are relatively high efficiency at all speeds, close speed regulation, and an infinite number of speed steps.

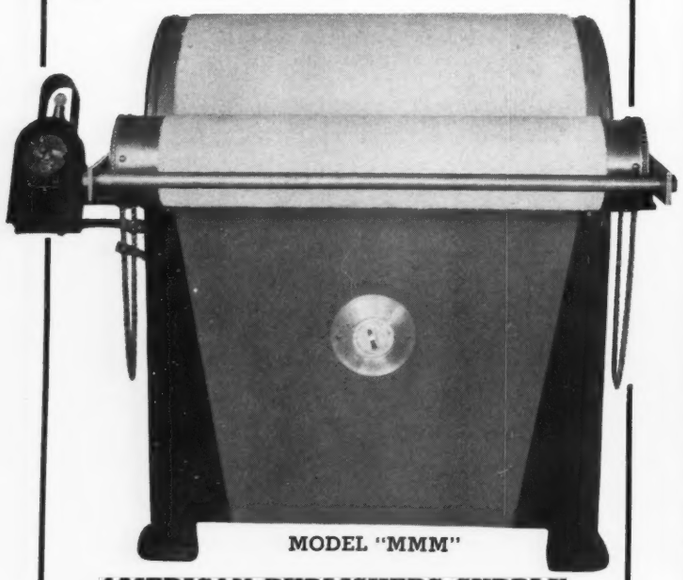
For the reasons outlined above, it should

FORM-O-SCORCH

- DIRECT HEAT
- THERMOSTAT
- TEMPERATURE CONTROL
- ADJUSTABLE COVER TENSION
- PILOT LIGHT & TIMER

$250 WITHOUT TIMER

$275 AS ILLUSTRATED



MODEL "MMM"

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C&G *simplicity, precision, speed,* pays dividends on a performance guarantee.

**Milwaukee Saw Trimmer Corp.**
**610-612 East Clybourn St., Milwaukee, Wis.**


be apparent that careful consideration must be given to the exact production requirements before the type drive is recommended. Therefore, a competent electrical manufacturer should be consulted.

### Cylinder Raising Equipment and Pressure Control

It is necessary to raise and lower the impression cylinder for changing the copper cylinder and threading the web through the press. A vertical screw drive on each side of the press unit, connected by a horizontal shaft, raises and lowers the impression cylinder through the medium of a single or two-speed motor gear-connected to the horizontal drive shaft.

Pressure between the impression cylinder and the plate cylinder is also obtained by this motor, the correct pressure being initially adjusted when the job is set up on the press. This pressure must be maintained constant during the printing operation and restored if the impression cylinder is raised for any purpose.

The degree of accuracy of impression pressure determines the type of motor and control equipment. In this discussion we will consider only electrical means of control, although pneumatic systems have been adapted to gravure presses.

The simplest form of control consists of a single speed motor and adjustable "down-stop" and "up" limit switches. The limit switch is mounted on the press frame and is operated by the impression cylinder bearing block as it is lowered into position. The motor is operated from an "up-down" push button station and the limit switches on the press frame limit the travel of the impression cylinder in both directions. Some makes of gravure presses provide a pressure indicator; the arm of which can be used to operate the "down" limit switch. This method gives a limit switch kick-off based on pressure and not on relative position of the impression cylinder.

For more refined control, a two-speed motor with brake and a more accurate "down-stop" limit switch has been used. Here again the "down-stop" limit switch is either operated by the impression cylinder bearing block or from the pressure indicating arm. As the impression cylinder, on being lowered, approaches the point or pressure at which it is to be stopped, a "slow-down" limit switch is operated and the two-speed motor is immediately brought down to slow speed. This slow speed reduces the stored energy in all moving parts so that when the very accurate "down-stop" limit switch is operated, the complete mechanism comes to an immediate stop through the operation of a disk type brake on the motor or a solenoid-operated brake on the horizontal drive shaft.

One make of gravure press incorporates a pneumatic system in which a clutch is operated from the "down-stop" limit switch to disconnect the drive motor from the driven shaft.

It is possible to eliminate the "down-stop" limit switch and substitute in its place a compression unit as manufactured by an instrument company. This compression unit to be included between the screw drive and the impression cylinder bearing blocks so that the unit will be under compression when the impression pressure builds up. This pressure is transmitted through a mercury tube connecting the pressure unit with a pressure indicating gauge. On the indicator is an adjustable electrical contact which can be set to open at a definite pressure.

With any of the above control systems a push button station is provided for each press unit to control the cylinder raising motors. There are four buttons, marked, "Up-Down,

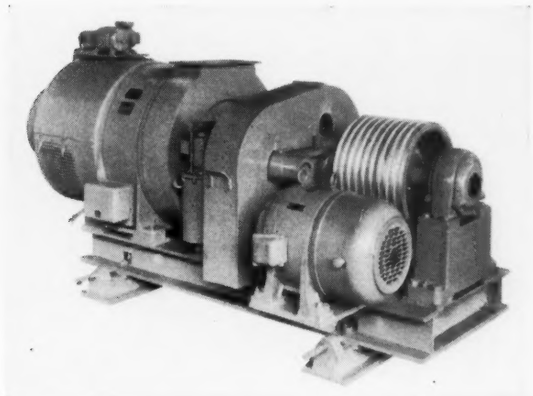


*Fig. 4—Separately force ventilated 75 h.p. polyphase brush shift type main motor, a.c. double motor drive.*

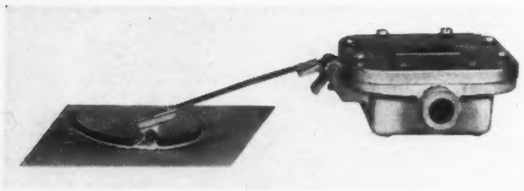


*Fig. 6—Explosion-proof web break detector.*

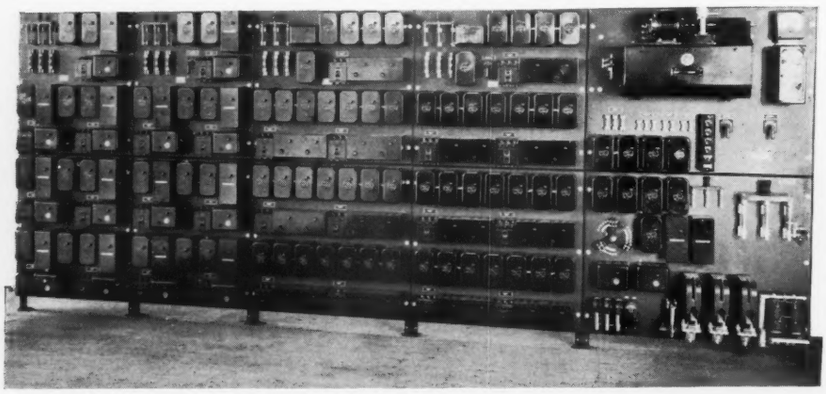
Master-Up, Master-Down." The operation of either the "Up "or "Down" buttons will control only the cylinder on that unit, but the operation of any one of the "Master-Up" or "Master-Down" buttons will operate all the cylinders simultaneously on the press.

On presses supplied with ink pumps it is advantageous to provide a six-button push button station for each press unit, four of which are for the cylinder raising control and two for the ink pump control. (See Fig. 5.)

The web break detectors (Fig. 6) may be connected to not only bring the press to a stop, but also to operate the cylinder raising motors to raise all cylinders approximately ½ in. during the stopping period. This is accomplished by a definite time relay on the control panel. Raising the cylinders permits rethreading after a web failure.

### Ink Pump Motors and Control

On presses fitted with ink pumps, there is one ink pump for each gravure press unit. This motor and pump is usually located on the base or at the end of the press unit.



In practically all instances, these ink pump motors are controlled from "start-stop" push buttons in the same station which controls the cylinder raising motors. The ink pump control is not interlocked with the main press drive control. In some cases two-speed motors are used and when the pump is first started up the motor runs on slow speed, the control being interlocked with the main press control so that it automatically goes to high speed when the main drive motor is started. When the press is brought to a stop, the ink pump motor returns to slow speed.

### Ink Drying and Ventilating System

The usual practice in gravure plants is to combine the ink drying equipment and ventilating system. The web on leaving the cylinders passes vertically through an enclosed duct supplied with hot air for drying the ink. An exhaust fan carries the air and vapors away from this drying chamber. This same duct system also carries the air away from various points surrounding the press and is part of the press room ventilating system.

In some installations, two-speed motors are used on the fan for the supply and exhaust systems. The exhaust fan is started up from a separate "start-stop" push button station. The press drive controller is interlocked with the fan control so that the press cannot be started unless the exhaust fan is running. It is further interlocked with the main press control so that the exhaust fan will go on high speed when the main motor of the drive is started. The supply fan, which conducts the heated air to the drying chamber, starts up when the press is started, and continues to run at slow speed until the press speed is increased to some predetermined value at which time the supply fan will go on high speed and will provide a greater quantity of heated air.

*Fig. 7—A.c. double motor full automatic controller with cylinder raising and ink pump control.*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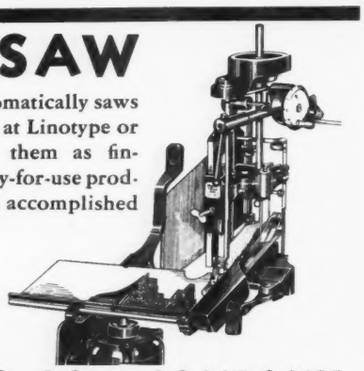

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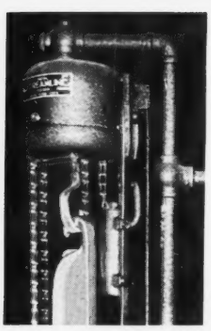

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*For all types of type or slug casting machines*

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No tacks. No cement to squeeze out. Simply lay a strip of this super-thin tape under the cut; press down by hand, and the cut is there to stay. When through, the tape strips off, leaving clean surfaces on both cut and base.

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MADE BY THE DAYTON RUBBER MANUFACTURING CO., DAYTON, OHIO

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If you want quality, rigidity and durability investigate the Warnock Base. First and original in the industry. **Send for our 1938 Catalog.**
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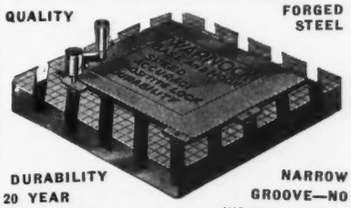
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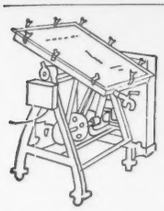
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* The **only** method of cleaning magazines and mats mechanically—**without running out the mats.** Adopted by the leading printing plants and approved by Linotype Company and Intertype Corp. Improves production—Actually pays for itself.
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● For Junior and Automatic Autoplate Machines and Tubular Casting Boxes.
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We Make Gauge Pins, Gauges, Gripper Fingers, Etc.
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Tubular • High Speed Flat Bed
Flat Bed • Stereo Machinery
**The Duplex Printing Press Co.**
**Battle Creek, Mich.**

# Clinics

(*Continued from Page 16*)

### Composing Machine Problems

Alemite lubrication compared with oil cup system for line-composing machines. Why is it more difficult to stop clutch chatter on one machine than it is on another? Explanation of the operation of the spreader; can quadding and centering device be had without the spreader? Can life of escapement be prolonged other than by routine adjustment?

Use of adhesives for holding cuts to base; alleviation of last-minute rush in getting editions to press; rule on 2 pt. body that will not curl up the second time under molding pressure.

### Stereotype Problems

Why do dry spots appear on solids in mats, causing the spots to stick to plates; if too much shrinkage appears on the plates what would be the best way to dry out mats to overcome the shrinkage? What precautions may be taken to eliminate buckles in mats? When dry mats are kept together in the same humidor before molding, what causes shrinkage to vary in width of page across top and bottom?

### Pressroom Demonstrations

Printing of one, two or three colors and black on an ordinary black and white press while using 7/16 in. plates and standard stereotype equipment; various combinations and makes of press packings; fabric covered ductor rollers.

Do rolls uneven in circumference cause offset on cuts? Which is the best method of carrying impression? Comparison of printing results obtained from a hard cork under the blanket and softer felt top or soft rubber blanket with a hard felt top blanket. Will blankets with smooth, glossy finish show a tendency to offset more than blankets with less finish? Should rubber rollers be set heavier than composition rollers? What is the cause of loss of ink coverage?

### Engraving Demonstrations and Problems

In addition to the demonstration of engraving equipment, some engraving problems to be considered are: Advantages of so-called special engraver's nitric acid; requirements in equipment and personnel to handle color work; value of re-etching newspaper halftones.

### Equipment and Facilities in Printing Laboratories

A mechanical research conference will be held in the printing laboratories of the Rochester Athanaeum and Mechanics Institute on February 6 and 7. The clinical sessions of the conference will be held both in the Institute's laboratories and in Rochester newspaper printing plants under actual production conditions.

The Institute's laboratories occupy a space of approximately 8,000 square feet, of which 3,000 square feet represent expansion during the past year. Extensive facilities for hand composition are provided by nine double steel cabinets of the most modern design with adequate stores of type and material, proof presses, saws, mitering machines, Ludlow, and All-Purpose Linotype. The machine composition equipment consists of a battery of fourteen Linotype and Intertype machines including the latest models. The re-melting room contains an electric pot, pump, pigging molds and stereotyping equipment. Facilities for type or material casting include an Elrod, Monotype Type and Rule Caster, Monotype Material Maker, and Giant Caster. Pressroom equipment is composed of nine presses of various sizes and types, such as a Washington Hand Press, Chandler & Price platen presses, Craftsman Automatic Unit, Miehle Vertical, and Kelly and Miehle cylinder presses. Bindery facilities include a Cleveland Folder, a Challenge hand paper cutter, Challenge power paper cutter, Challenge paper drilling machine, stitching machine and perforating machine. In addition to the main items of equipment, there are innumerable supplementary items, such as stones, make-up tables, make-ready tables, storage cabinets, ink and roller cabinets, maintenance and repair benches and small tolls.

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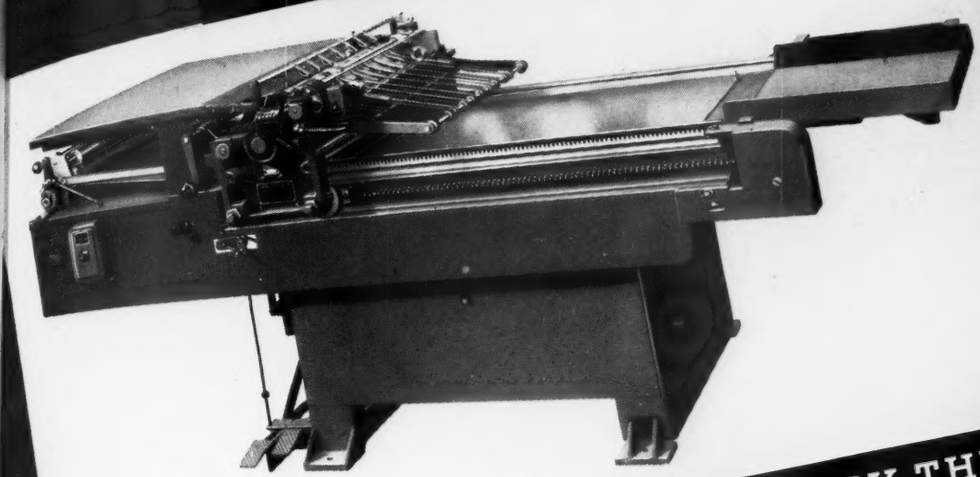
Consolidated—Cleveland

# Judged



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The verdict of users of the No. 325A Vandercook Power Proof Press is important to publishers who have not yet solved their page proving problem.

The newspapers listed use the speedy No. 325A Vandercook for proving full page advertisements in stereotype chases—at the rate of 1,000 PER HOUR.

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Florida Times-Union

MIAMI, FLORIDA
Miami Herald

CHICAGO, ILLINOIS
Chicago Daily News (2)
Chicago Herald & Examiner
Chicago Tribune

INDIANAPOLIS, INDIANA
Indianapolis News

DES MOINES, IOWA
Des Moines Register & Tribune

LOUISVILLE, KY.
Louisville Courier-Journal & Times

NEW ORLEANS, LA.
New Orleans Item-Tribune
New Orleans Times-Picayune

BALTIMORE, MD.
Baltimore American
Baltimore Sun

LOWELL, MASS.
Lowell Courier Citizen

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Boston Globe
Boston Herald-Traveler

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Detroit Free Press
Detroit News

MINNEAPOLIS, MINN.
Minneapolis Tribune

ST. LOUIS, MO.
St. Louis Globe Democrat
St. Louis Post Dispatch
St Louis Star-Times

OMAHA, NEBRASKA
Omaha World Herald

NEWARK, N. J.
Newark Evening News

BROOKLYN, N. Y.
Brooklyn Daily Eagle

BUFFALO, N. Y.
Buffalo Times

NEW YORK, N. Y.
New York Daily Mirror
New York Evening Journal (3)
New York Evening Post (2)
New York Herald Tribune (2)
New York Star
New York Times (2)
New York Sun (2)
New York World Telegram

ROCHESTER, N. Y.
Rochester Times-Union

CINCINNATI, OHIO
Cincinnati Post
Cincinnati Times Star

CLEVELAND, OHIO
Cleveland News
Cleveland Plain Dealer
Cleveland Press
Cleveland Shopping News

YOUNGSTOWN, OHIO
Youngstown Vindicator

McKEESPORT, PA.
McKeesport Daily News

PHILADELPHIA, PA.
Philadelphia Evening Bulletin
Philadelphia Inquirer (2)
Philadelphia Public Ledger
Philadelphia Record

PITTSBURGH, PA.
Pittsburgh Press
Pittsburgh Sun-Telegraph

MEMPHIS, TENN.
Memphis Commercial Appeal

RICHMOND, VA.
Richmond News Leader

SEATTLE, WASHINGTON
Seattle Post-Intelligencer
Seattle Times

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MORE FACTS and figures concerning the Autospacer—and other cost-cutting features of the latest Streamlined Intertypes—will be furnished on request. Please address INTERTYPE CORPORATION, BROOKLYN, N.Y.

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